



PROJECT NUMBER:

12069

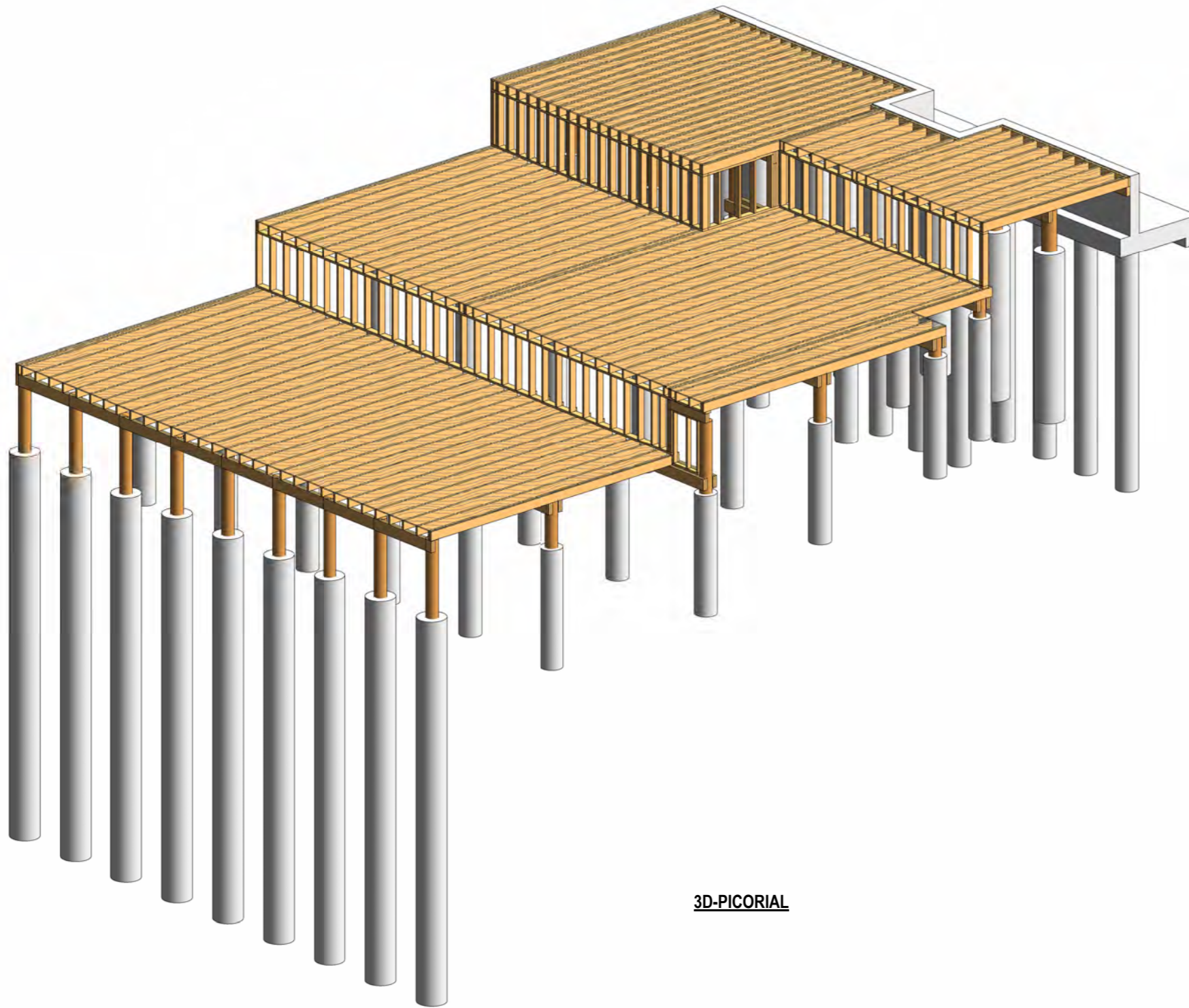
PROJECT OFFICE:

GISBORNE

PROJECT MANAGER:

R.MOREAU

**STRUCTURAL DRAWINGS
RESIDENTIAL DWELLING
31 RICHARDSON AVENUE
WHATAUPOKO
GISBORNE**



3D-PICORIAL

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GENERAL NOTES & LIMITATIONS OF USE

- THESE DRAWINGS SHALL BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT DOCUMENTATION TO THE PROJECT WHICH MAY INCLUDE (BUT NOT LIMITED TO); ARCHITECTURAL DRAWINGS, ARCHITECTURAL & STRUCTURAL SPECIFICATIONS, INSPECTION SCHEDULES, GEOTECHNICAL REPORTS, SPECIALIST SYSTEM DESIGN (ie: HVAC, FIRE) AND ANY OTHER 3rd PARTY DOCUMENTATION FOR SPECIALIST DESIGNERS ENGAGED ON THE PROJECT.
- DIMENSIONS SHALL NOT BE OBTAINED BY SCALING FROM DRAWINGS. USE FIGURED DIMENSIONS ONLY. CONTRACTOR TO VERIFY ALL DIMENSIONS ON SITE PRIOR TO CONSTRUCTION OR FABRICATION.
- ANY DISCREPANCIES ENCOUNTERED ON SITE WITH THE DESIGN SHALL BE REFERRED TO THE DESIGN ENGINEER IMMEDIATELY FOR RESOLUTION BEFORE PROCEEDING WITH CONSTRUCTION OR FABRICATION OF COMPONENTS.
- THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN, INSTALLATION AND MAINTENANCE OF ALL TEMPORARY WORK TO ENSURE ADEQUATE STRENGTH AND STABILITY OF THE STRUCTURE AND GROUND DURING CONSTRUCTION.
- THE CONTRACTOR SHALL ENSURE SAFE WORK PRACTICES ON SITE IN ACCORDANCE WITH ALL APPLICABLE HEALTH & SAFETY CODES, RELEVANT STANDARDS AND LEGISLATION.
- WHERE PROPRIETARY PRODUCTS ARE SPECIFIED IN THE STRUCTURAL DRAWINGS SUBSTITUTIONS MAY ONLY BE MADE IF APPROVED BY THE ENGINEER.
- ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE NZ BUILDING CODE, CURRENT CODES OF PRACTICE AND ANY LOCAL TERRITORIAL AUTHORITY REQUIREMENTS.
- STANDARD ENGINEERING ABBREVIATIONS MAY HAVE BEEN USED IN THE DRAWINGS, COMMON ABBREVIATIONS ARE AS SHOWN BELOW:

ALT	ALTERNATE	MIN	MINIMUM
APPROX.	APPROXIMATE	N/A	NOT APPLICABLE
B	BOTTOM	NF	NEAR FACE
BOS	BOTTOM OF STEEL	NTS	NOT TO SCALE
CHS	CIRCULAR HOLLOW SECTION	OD	OUTSIDE DIAMETER
CONC.	CONCRETE	PCD	PITCH CIRCLE DIAMETER
COS	CHECK ON SITE	PCP	PRECAST PANEL
CRS	CENTERS	PFC	PARALLEL FLANGE CHANNEL
CJ	CONSTRUCTION JOINT	R	PLAIN ROUND BAR (300E)
CL	CENTER LINE	RB	REIDBAR (500E)
D	DEFORMED BAR (300E)	REF	REFER
DPC	DAMP PROOF COURSE	REBAR	REINFORCING BAR
DPM	DAMP PROOF MEMBRANE	RHS	RECTANGULAR HOLLOW SECTION
DIA	DIAMETER	RL	REDUCED LEVEL
DIM	DIMENSION	SFL	STRUCTURAL FLOOR LEVEL
DP	DOWNPIPE	SHS	SQUARE HOLLOW SECTION
DRG/DWG	DRAWING	SIM	SIMILAR
EA	EQUAL ANGLE	SJ or SC	SAWN CONTROL JOINT
EF	EACH FACE	SOP	SET OUT POINT
EJ	EXPANSION JOINT	S/S	STAINLESS STEEL
ELEV	ELEVATION	SSL	STRUCTURAL SLAB LEVEL
EW	EACH WAY	STIFF	STIFFENER
EX	EXISTING	STGD	STAGGERED
FF	FAR FACE	STRPS	STIRRUPS
FFL	FINISHED FLOOR LEVEL	STRS	STARTERS
FGL	FINISHED GROUND LEVEL	T	TOP
FW	FILLET WELD	T/S	TOPSIDE
FWAR	FILLET WELD ALL AROUND	THK	THICK
GALV	GALVANISED	TOC	TOP OF CONCRETE
GL	GROUND LEVEL	TOF	TOP OF FOOTING
Gr	GRADE	TOS	TOP OF STEEL
HD	DEFORMED BAR (500E)	TOW	TOP OF WALL
H.D. GALV	HOT DIP GALVANISED	TYP	TYPICAL
HR	PLAIN ROUND BAR (500E)	U/S	UNDERSIDE
ID	INSIDE DIAMETER	UA	UNEQUAL ANGLE
IL	INVERT LEVEL	UB	UNIVERSAL BEAM
Lg	LONG	UC	UNIVERSAL COLUMN
MAX	MAXIMUM	UNO	UNLESS NOTED OTHERWISE

FOUNDATIONS, EXCAVATIONS & BACKFILL

- READ THE STRUCTURAL DRAWINGS IN CONJUNCTION WITH THE GEOTECHNICAL REPORT OR SOIL TESTS FOR ASSUMED GROUND BEARING CAPACITIES.
- FOUNDATION SYSTEMS:
 - 2a) **NZS3604:2011 COMPLIANT FOUNDATIONS**
UNLESS SPECIFIED OR DETAILED OTHERWISE ALL FOUNDATIONS SHALL BEAR UPON SOLID BOTTOM IN UNDISTURBED GOOD GROUND MATERIAL OR UPON FIRM FILL FOR WHICH A CERTIFICATE OF SUITABILITY HAS BEEN ISSUED UNDER NZS 4431. REFER TO NOTE 4 BELOW AND TO CLAUSE 3.1.3 NZS3604:2011 FOR DETERMINATION OF GOOD GROUND.
 - 2b) **SPECIFICALLY ENGINEERED DESIGN (S.E.D.) FOUNDATIONS SYSTEMS**
WHERE FOUNDATION SYSTEMS ARE SPECIFICALLY DESIGNED BASED ON SITE SPECIFIC SOIL PARAMETERS THEN GEOTECHNICAL REQUIREMENTS WILL BE AS NOTED ON THE DRAWINGS, ANY SUCH GEOTECHNICAL NOTES DIRECTLY SHOWN ON THE DRAWINGS SHALL ALWAYS TAKE PRECEDENCE OVER ANY OTHER GENERAL NOTES IN THIS SECTION.
- ALL EXCAVATIONS AND PLACING OF HARDFILL TO BE CARRIED OUT IN DRY CONDITIONS. IF DEWATERING IS REQUIRED THE SITE SHALL BE MAINTAINED IN A DEWATERED CONDITION FOR THE DURATION OF THE FOUNDATION WORK. MANAGE ON SITE STORAGE OF FILL TO MINIMIZE SURFACE PONDING IN THE EVENT OF RAIN.
- GRANULAR FILL SHALL BE PLACED IN ACCORDANCE WITH NZS 4431:1989 AND TO THE GENERAL REQUIREMENTS AS OUTLINED BELOW.
 - 4.1) WHERE COMPACTED HARDFILL IS TO BE PLACED BELOW A BUILDING USE A SUITABLE AP40 OR AP65 GRAVEL WITH A MAXIMUM DRY DENSITY OF AT LEAST 2150kg/m³. ALLOW FOR A 10-25mm MAX. SAND BLINDING FOR WHERE DPM SHEETS ARE TO BE INSTALLED OVER THE HARDFILL BASE.
 - 4.2) PLACE AND COMPACT THE FILL MATERIAL IN LAYERS OF 150mm MAXIMUM THICKNESS USING A LARGE SELF-DRIVEN PLATE COMPACTOR (DO NOT TRACK ROLL WITH AN EXCAVATOR). THE FILL MATERIAL IS TO BE DENSITY TESTED USING A NUCLEAR DENSOMETER (ND) TO ENSURE FILL IS COMPACTED TO AT LEAST 95% OF MAXIMUM DRY DENSITY (MDD). A READING OF 6 ND TESTS ARE TO BE CARRIED OUT FOR EVERY 400mm LIFT AND 95% OF SUCH READINGS TO EXCEED THE GREATER OF THE MDD OR 2150kg/m³.
 - 4.3) THE CONTRACTOR IS TO OBTAIN THE MAXIMUM DRY DENSITY CERTIFICATE FOR THE FILL MATERIAL AND SUPPLY IT TO THE ENGINEER WITH THE ND TEST RESULTS.
 - 4.5) FAILURE TO UNDERTAKE THESE STEPS MAY RESULT IN FILL MATERIAL BEING LIFTED AND PLACED AGAIN AT THE CONTRACTORS EXPENSE.

TIMBER FRAMING

- ALL TIMBER FRAMING TO BE SG8 IN ACCORDANCE WITH NZS3622:2004 UNLESS NOTED OTHERWISE. DO NOT ACCEPT DAMAGED, FAULTY OR DEFECTIVE MATERIALS.
- LIGHT TIMBER FRAMING CONSTRUCTION TO COMPLY WITH NZS3604:2011 AND OR ANY SPECIFIC ENGINEERED DESIGN OR APPROVED PROPRIETARY DESIGN TABLES. WHERE IN DOUBT FOR WHICH A STANDARD DETAIL FROM NZS3604:2011 CAN NOT BE APPLIED CONTACT THE ENGINEER FOR RESOLUTION IMMEDIATELY.
- DURABILITY OF FIXINGS AND FASTENERS IN ACCORDANCE WITH SECTION 4 OF NZS3604:2011 AND TO THE ARCHITECTS SPECIFICATIONS.
- DURABILITY OF FRAMING AND HAZARD CLASS TREATMENT OF TIMBER IN ACCORDANCE WITH NZS3602:2003 AND TO THE ARCHITECTS SPECIFICATIONS.
 - GENERALLY MINIMUM REQUIREMENTS;
 - 4.1) ALL TIMBER MEMBERS IN GROUND CONTACT SHALL HAVE H5 LEVEL OF TREATMENT TO AS/NZS1604.
 - 4.2) ALL TIMBER MEMBERS EXPOSED TO EXTERIOR WEATHER CONDITIONS AND DAMPNES BUT NOT IN GROUND CONTACT SHALL HAVE H3.2 LEVEL OF TREATMENT TO AS/NZS1604.
 - 4.3) ALL TIMBER MEMBERS PROTECTED FROM THE WEATHER (ie: ENCLOSED TIMBER) BUT EXPOSED TO GROUND ATMOSPHERE SHALL HAVE H1.2 LEVEL OF TREATMENT TO AS/NZS1604

FOR FURTHER INFORMATION AND THE TREATMENT REQUIREMENTS OF ALL OTHER CASES REFER TO TABLE 1, NZS3602:2003.

- WHERE H5 TIMBER PILES HAVE BEEN CUT AFTER TREATMENT REFER TO CLAUSE 6.4.3.3 NZS3604:2011 FOR REQUIRED BRUSH TREATMENT TO CUT SURFACES. THE SURFACE SHALL NOT BE CUT FOR FIXINGS AND OTHER PURPOSES CLOSER THAN 150mm TO THE FINISHED GROUND LEVEL.
- BOLTING**
ALL BOLTS TO TIMBER FRAMING TO BE GRADE 4.6, UNLESS OTHER NOTED, WITH 50x50x3mm OVERSIZED WASHERS TO TIMBER FACES. MINIMUM EDGE DISTANCES AS PER FIGURE 1.
- NOTCHES AND HOLES IN TOP PLATES**
GENERALLY REFER TO SECTION 8.7.5 NZS3604:2011.
- NOTCHES AND HOLES IN FLOOR JOISTS**
GENERALLY REFER TO SECTION 7.1.7 NZS3604:2011, SPECIFIC ENGINEERING DESIGN MAY NEED TO BE UNDERTAKEN WHEN OUTSIDE OF THESE STATED LIMITATIONS. AVOID RUNNING PLUMBING THROUGH FLOOR JOISTS UNLESS SPECIFICALLY DESIGNED FOR.
- NOTCHES AND HOLES IN STUDS**
GENERALLY REFER TO CLAUSE 8.5.1.6 NZS3604:2011.

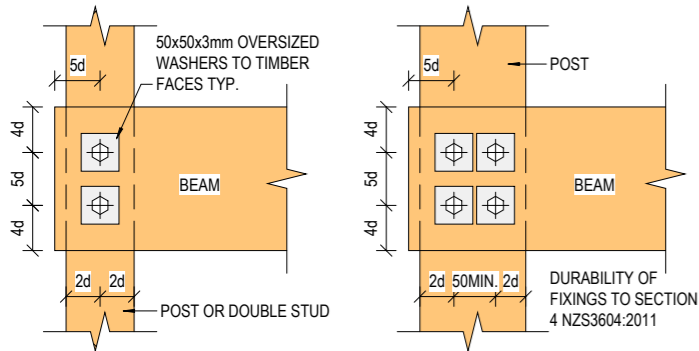
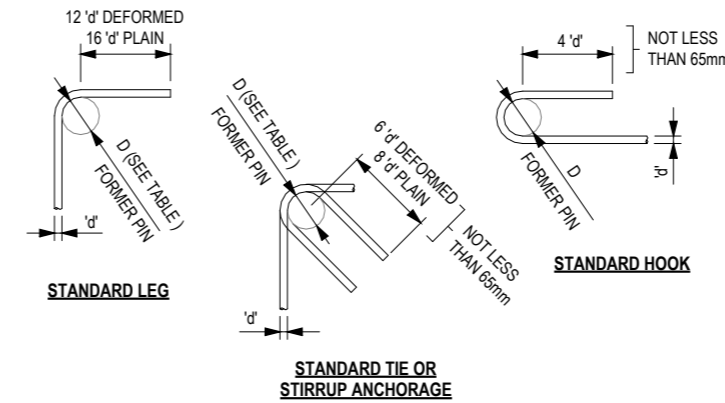


FIGURE 1: MINIMUM DISTANCES FOR BOLTS IN TIMBER (U.N.O)

"d" DENOTES Ø OF BOLT IN mm

REINFORCEMENT

- THE ENGINEER SHALL BE INFORMED, WHEN FIXING OF REINFORCEMENT IS COMPLETE TO ALLOW INSPECTION BEFORE PLACEMENT OF CONCRETE WHERE STIPULATED IN THE INSPECTION SCHEDULE.
- ALL WORK TO BE CARRIED OUT BY A COMPETENT REBAR STEEL CONTRACTOR OR LBP BUILDER LICENSED IN THIS SKILL. THE CONTRACTOR SHALL REMAIN RESPONSIBLE FOR BENDING SCHEDULES, REBAR SHOWN IN THESE DRAWINGS ARE DIAGRAMMATIC ONLY TO ILLUSTRATE DESIGN INTENT.
- FOR REINFORCEMENT LAP LENGTHS REFER TO THE APPROPRIATE TABLES IN SECTIONS 'REINFORCED MASONRY' OR 'REINFORCED CONCRETE'.
- REINFORCEMENT DESIGNATIONS ON THE DRAWINGS ARE AS FOLLOWS:
 - BAR GRADE AND TYPE: 12-HD16-150 NF
 - CENTERS
 - LOCATION
 - NUMBER OFF
 - DIAMETER
- WELDING OF REINFORCEMENT IS NOT PERMITTED UNDER ANY CIRCUMSTANCES UNLESS SPECIFICALLY SHOWN ON THE DRAWINGS OR APPROVED BY THE ENGINEER VIA A WRITTEN SITE INSTRUCTION.
- ADEQUATELY SUPPORT AND SECURE REINFORCEMENT IN POSITION AGAINST DISPLACEMENT AND MAINTAIN MINIMUM SPECIFIED CLEAR CONCRETE COVER TO REINFORCEMENT. TOLERANCES ON CONCRETE COVER SHALL BE IN ACCORDANCE WITH NZS3109.
- BENDING OF REINFORCEMENT SHALL BE IN ACCORDANCE WITH NZS 3101 & NZS 3109 AND AS SHOWN IN THE FIGURES AND TABLES BELOW;



MINIMUM BEND DIAMETER OF REINFORCING BARS				
STEEL GRADE	BAR SIZE (mm) 'd'	MINIMUM DIAMETER OF BEND FOR MAIN BARS	MINIMUM DIAMETER OF BEND FOR STIRRUPS AND TIES	
			PLAIN BARS	DEFORMED BARS
300E or 500E	6-20	5d	2d	4d
	24-40	6d	3d	6d

PROPRIETARY FIXINGS

(EPOXY FIXED ANCHORS, MECHANICAL ANCHORS, TIMBER CONNECTORS & FIXINGS)

- ALL PROPRIETARY ANCHORS OR FIXINGS TO BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURERS SPECIFICATIONS USING THE PRODUCTS SPECIFIED IN THE DRAWINGS.
- NO SUBSTITUTION OF OTHER PRODUCTS FROM THE DRAWINGS OR SPECIFICATIONS IS PERMITTED UNLESS WRITTEN APPROVAL IS MADE BY THE DESIGN ENGINEER.
- A PS3 MAY BE REQUIRED AT THE DISCRETION OF THE ENGINEER FOR ANCHORS OR CONNECTORS HIGHLY CRITICAL TO THE STRUCTURAL PERFORMANCE OF THE BUILDING.
- WHERE INCORRECT OR SUB STANDARD PRODUCTS ARE USED THE ENGINEER MAY REQUEST DESTRUCTIVE TESTING / LOAD TESTING OR FURTHER DESIGN AND CONSTRUCTION MONITORING, ALL OF WHICH ARE AT THE CONTRACTOR EXPENSE TO ENSURE THE ORIGINAL DESIGN OBJECTIVES ARE MET.

REINFORCED CONCRETE

- ALL CONCRETE WORK TO BE CONSTRUCTED IN ACCORDANCE WITH THE REQUIREMENTS OF NZS 3101, NZS 3109 AND ANY OTHER REFERENCED STANDARDS. WHERE STRUCTURAL DESIGN SHOWN EXCEEDS THE MINIMUM REQUIREMENTS OF THESE STANDARDS THE STRUCTURAL DESIGN & DRAWINGS SHALL ALWAYS TAKE PRECEDENCE OVER THE MINIMUM REQUIREMENTS DEFINED IN THESE STANDARDS.
- NO CONCRETE SHALL BE PLACED UNTIL LDE LTD HAS INSPECTED THE REINFORCING STEEL. THE INSPECTION DOES NOT RELIEVE THE CONTRACTOR OF THEIR RESPONSIBILITY TO ENSURE THAT ALL WORK IS IN ACCORDANCE WITH THE NZ BUILDING CODE, RELEVANT STANDARDS AND CONTRACT DOCUMENTS.
- MINIMUM REQUIRED CHARACTERISTIC CONCRETE GRADES ARE AS SPECIFIED IN THE DRAWINGS.
- CONCRETE GRADES ARE AS SPECIFIED AS '28 DAY SPECIFIED COMPRESSIVE STRENGTHS' AS DEFINED IN NZS 3109. ALL SUPPLY AND PRODUCTION SHALL BE IN ACCORDANCE WITH NZS 3104. CONCRETE BATCH STRENGTH CERTIFICATES MAY BE REQUESTED AT THE DISCRETION OF THE DESIGN ENGINEER AND IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE THEM WHERE REQUESTED. IF NO STRENGTH CERTIFICATES CAN BE PROVIDED THEN THE CONTRACTOR SHALL TAKE CORE SAMPLES OF THE CONCRETE AND HAVE THEM TESTED AT A CERTIFIED TEST FACILITY AT THEIR OWN COST.
- ALL REINFORCING STEEL SHALL BE GRADE 300E OR 500E IN COMPLIANCE WITH AS/NZS 4671. THE REPLACEMENT OF REINFORCEMENT WHICH HAS BEEN DETAILED ON THE STRUCTURAL DRAWINGS WITH AN EQUIVALENT STRENGTH REINFORCING OF DIFFERENT GRADE IS NOT PERMITTED UNDER ANY CIRCUMSTANCES.
- ALL VISIBLE CONCRETE SURFACE FINISHES ARE TO BE CONFIRMED WITH THE ARCHITECT, REFER TO NZS 3114 FOR FURTHER INFORMATION OF FINISHING.
- MINIMUM COVER TO STEEL REINFORCEMENT SHALL BE AS SHOWN BELOW UNLESS SPECIFIED OTHERWISE IN THE DRAWINGS AND IN ACCORDANCE WITH NZS 3101.

ELEMENT	MIN. COVER
CONCRETE CAST DIRECTLY AGAINST GROUND	75mm
CONCRETE CAST AGAINST GROUND AND PROTECTED BY A DPM	50mm
CONCRETE CAST AGAINST FORMWORK	50mm
ANY CONCRETE SLAB OR WALL SURFACE EXPOSED TO WEATHER	50mm
TOP OF A CONCRETE SLAB PROTECTED FROM WEATHER	30mm
- NO REINFORCEMENT WIRE TIES SHALL PROJECT INTO THE MINIMUM CONCRETE COVER.
- ALL REINFORCEMENT MUST BE CLEAN AND FREE FROM MUD, LOOSE RUST, MILL SCALE, CONCRETE LAITANCE, OIL OR ANY OTHER CONTAMINANTS AT THE TIME CONCRETE IS PLACED.
- ALL REINFORCEMENT SHALL BE ADEQUATELY SECURED AGAINST DISPLACEMENT AT INTERSECTIONS BY THE USE OF IRON WIRE TIES WITH A DIAMETER GREATER THAN 1.25mm OR BY APPROVED CLIPS. ALL REINFORCING SUPPORTS SHALL MAINTAIN THE CORRECT POSITION OF THE REINFORCEMENT DURING PLACEMENT AND VIBRATION OR COMPACTION OF THE CONCRETE.
- ALL CONSTRUCTION JOINTS SHALL BE TYPE-B CONSTRUCTION JOINTS PREPARED IN ACCORDANCE WITH NZS 3109, UNLESS OTHERWISE NOTED. METHODS WHICH AVOID SCABBLING ARE PREFERRED FOR INTENTIONALLY ROUGHENING THE CONCRETE SURFACE AT CONSTRUCTION JOINTS.
- UNLESS OTHERWISE SHOWN MESH IN FLOOR SLABS SHALL BE LAPPED THE GREATER OF -225mm (CLAUSE 7.5.8.3, NZS3604:2011) - AS PER MANUFACTURER'S SPECIFICATIONS
- THE DEVELOPMENT OF PLAIN BARS SHALL RELY ON HOOKS IN ACCORDANCE WITH NZS3101.
- SPLICE LAP LENGTHS ARE TO BE IN ACCORDANCE WITH NZS3101 AND TO THE VALUES AS SHOWN BELOW. STAGGER LAPS WHERE POSSIBLE, WHERE LAPS CANNOT BE STAGGERED REFER TO ENGINEER FOR GUIDANCE. WHERE OFFSET SPLICES ARE REQUIRED THE INCLINED PORTION OF THE BAR SHALL NOT EXCEED A 1 IN 6 CRANK.

* LAP LENGTHS (mm) - DEFORMED BARS							
CONCRETE STRENGTH	BAR GRADE	BAR DIAMETER 'd'					
		10	12	16	20	25	32
20MPa	300E	440	530	700	870	1110	1400
	500E	730	880	1170	1460	1820	2330
25MPa	300E	390	470	620	780	1010	1250
	500E	650	790	1040	1300	1630	2090
30MPa	300E	390	430	570	720	890	1140
	500E	600	720	960	1190	1490	1900
35MPa	300E	390	400	530	660	830	1050
	500E	560	660	870	1110	1380	1760
40MPa	300E	390	390	490	620	770	990
	500E	520	620	830	1030	1290	1640

*ALLOWANCE HAS BEEN MADE IN THIS TABLE FOR A MULTIPLIER OF x1.3 FACTOR FOR 'TOP BARS' ie: FOR WHICH 300mm OF FRESH CONCRETE IS CAST BELOW THE MEMBER. (REFER TO CLAUSE 8.6.3.2, NZS3101.1:2006). FOR SLABS OR FOUNDATIONS LESS THAN 300mm THICK TOTAL THICKNESS TABULATED VALUES SHOWN CAN BE REDUCED BY A FACTOR OF 1/1.3.

CLIENT DANIEL ROBINSON		DESIGN: RM	PROJECT DESCRIPTION RESIDENTIAL STRUCTURAL DESIGN	DRAWING TITLE GENERAL NOTES - SHEET 01	STATUS:
		DRAWN: JH	31 RICHARDSON AVENUE, WHATAUPOKO, GISBORNE	TEAM/DISCIPLINE: STRUCTURAL	PROJECT No: 12069
		DATE: 30/08/2023		SERVICE:	DRAWING No: 12069 - S001
		CHECKED: RM			REV: A
		SCALE A3: 1 : 10			

REINFORCED MASONRY

- ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH NZS4210 AND NZS4230.
- ALL MASONRY BLOCKWORK SHALL BE CONSTRUCTED BY A SKILLED TRADESMAN IN ACCORDANCE WITH NZS4210 AND DIRECTLY SUPERVISED BY A REGISTERED MASON WHO SHALL PROVIDE CONTINUOUS INSPECTION DURING THE PROCESS OF CONSTRUCTION OF ALL MASONRY ELEMENTS.
- THE OBSERVATION LEVEL SHALL BE TYPE B IN ACCORDANCE WITH NZS 4230.
- NO GROUT SHALL BE PLACED UNTIL THE ENGINEER HAS INSPECTED AND APPROVED THE BLOCKWORK REINFORCING, CONSTRUCTION JOINTS, CAST IN ITEMS AND ANY CONCRETE SURFACES THAT MAY BE INVOLVED IN THE GROUTING OPERATION. THE INSPECTION DOES NOT RELIEVE THE CONTRACTOR OF THEIR RESPONSIBILITY TO ENSURE THAT ALL WORK IS IN ACCORDANCE WITH THE NZ BUILDING CODE, RELEVANT STANDARDS AND CONTRACT DOCUMENTS.
- ALL MASONRY BLOCKS SHALL COMPLY WITH AS/NZS 4455.1 AND BE SUPPLIED FROM AN APPROVED MANUFACTURER. LIGHTWEIGHT AGGREGATE BLOCKS SHALL NOT BE USED.
- MORTAR SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 12.5MPa AND A 7 DAY MASONRY TO MORTAR BOND STRENGTH OF 200kPa UNLESS OTHERWISE SPECIFIED.
- WHERE NOT SHOWN ON THE DRAWINGS CONTROL JOINTS SHALL BE PROVIDED AT MAX 6.0m CENTERS. SUCH JOINTS SHALL BE IN ACCORDANCE WITH NZS 4229 AND TO THE APPROVAL OF THE ENGINEER.
- ALL REINFORCING STEEL SHALL BE GRADE 300E OR 500E IN COMPLIANCE WITH AS/NZS 4671. THE REPLACEMENT OF REINFORCEMENT WHICH HAS BEEN DETAILED ON THE STRUCTURAL DRAWINGS WITH AN EQUIVALENT STRENGTH OR SIZE OF REINFORCING OF DIFFERENT GRADE IS NOT PERMITTED UNDER ANY CIRCUMSTANCES.
- UNLESS SHOWN OTHERWISE ON THE DRAWINGS TYPICAL REINFORCEMENT DETAILS SHALL BE AS REQUIRED BY NZS 4210.
- ALL REINFORCING (INCLUDING STARTER BARS) SHALL BE CAREFULLY SET OUT TO SUIT MASONRY MODULES AND REQUIRED LOCATIONS WITHIN CELLS AND CAVITIES, IN ACCORDANCE WITH NZS 4210 OR AS SHOWN ON THE DRAWINGS.
- ALL BLOCKS SHALL BE SOLID FILLED, GROUTING SHALL BE BY THE HIGH LIFT METHOD WITH AN EXPANSIVE ADDITIVE AS DESCRIBED IN NZS 4210. USE OPEN ENDED BOND BEAM BLOCKS THROUGHOUT.

ALL BLOCKFILL GROUT SHALL BE SUPPLIED READY MIXED FROM A PLANT HAVING A CURRENT 'CERTIFICATE OF AUDIT' ISSUED BY THE NZ READY MIX CONCRETE ASSOCIATIONS.

BLOCKFILL GROUT SHALL BE COARSE GROUT COMPLYING WITH THE REQUIREMENTS OF NZS 4210 AND SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 20MPa. THE COARSE AGGREGATE SHALL HAVE A NOMINAL SIZE RANGE OF 4.75mm TO 13.2mm. AN APPROVED EXPANSIVE ADDITIVE SHALL BE INCLUDED IN THE GROUT.

14. REINFORCEMENT SPLICE LAPS IN MASONRY TO CONFORM TO THE TABLE SHOWN BELOW (VALUES AS DERIVED FROM NZS 4230)

** LAP LENGTHS IN MASONRY (mm) - DEFORMED BARS							
CONCRETE STRENGTH	BAR GRADE	BAR DIAMETER 'd'					
		10	12	16	20	25	32
20MPa (MINIMUM)	300E	400	500	650	800	1000	1300
	500E	700	850	1150	1400	1750	2250

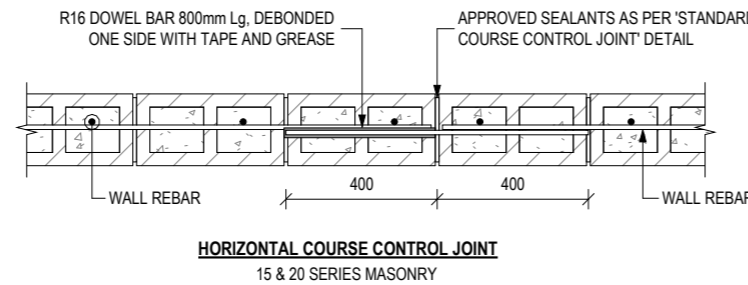
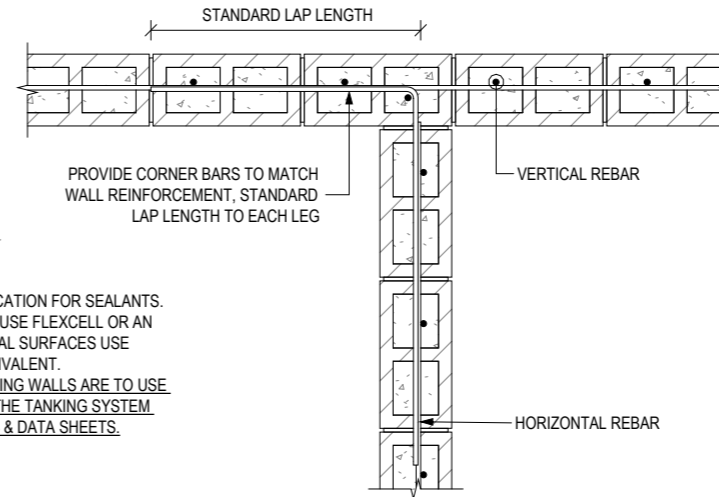
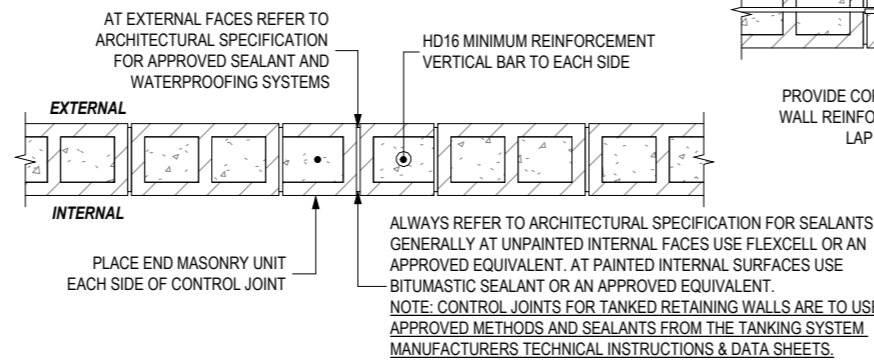
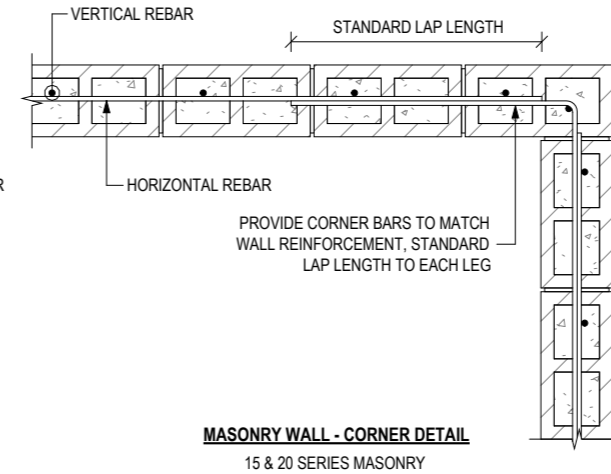
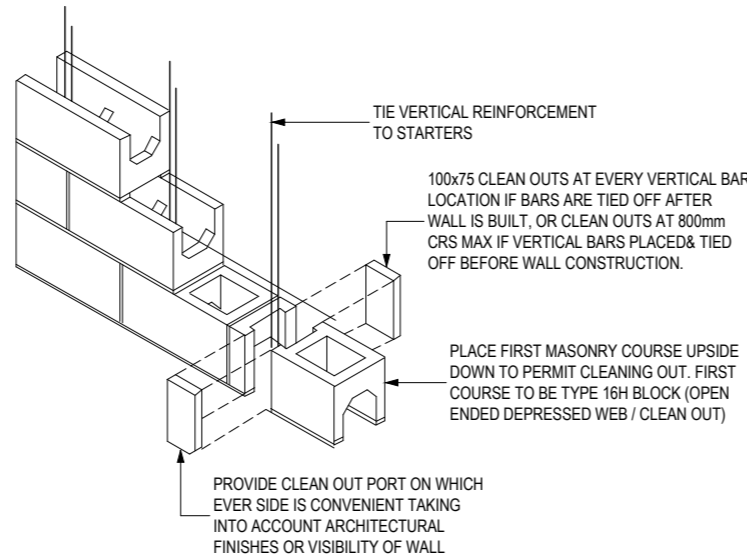
**ALLOWANCE HAS BEEN MADE IN THIS TABLE FOR EXPANSIVE ADMIXTURES (AS DEFINED IN NZS 4210) IN THE BLOCK FILL GROUT. IF NO ADMIXTURES HAVE BEEN SUPPLIED INCREASE ALL TABULATED VALUES BY 30%.

15. CONCRETE MASONRY SHALL HAVE MINIMUM COVER TO STEEL REINFORCEMENT FROM AN UNCOATED MASONRY EXTERNAL FACE WITH A MINIMUM GROUT STRENGTH AS SHOWN TABULATED BELOW. COVER IS MEASURED TO THE OUTSIDE FACE OF THE CELL FACE OF THE UNIT. ALTERNATIVE COVER COMPLIANCE WITH DURABILITY CAN ALSO BE MADE FROM TABLE 4.1 of NZS4230:2004. WHERE MASONRY HAS BEEN SPECIFICALLY DESIGNED FOR FIRE RESISTANCE MINIMUM COVER SHALL BE AS PER THE DETAIL DRAWINGS.

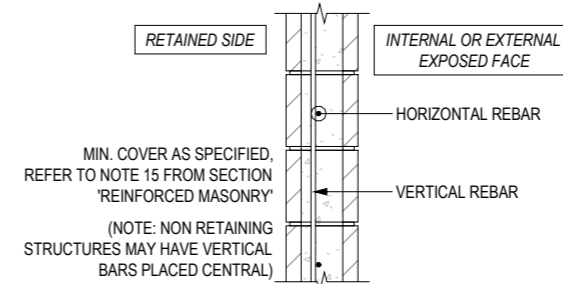
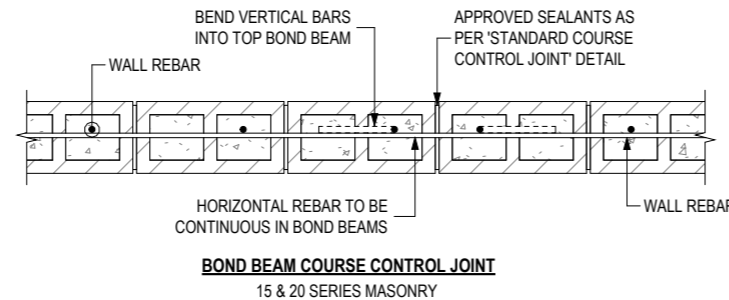
MINIMUM COVER REQUIREMENTS FOR REINFORCED MASONRY		
MASONRY EXPOSURE ZONE *	CONC. STRENGTH	MIN. COVER
EXPOSURE ZONE B & INTERIOR CONDITIONS	20MPa	45mm
EXPOSURE ZONE C	20MPa	50mm
EXPOSURE ZONE D	25MPa	60mm

* EXPOSURE ZONE AS PER FIGURE 4.2 NZS3604:2011

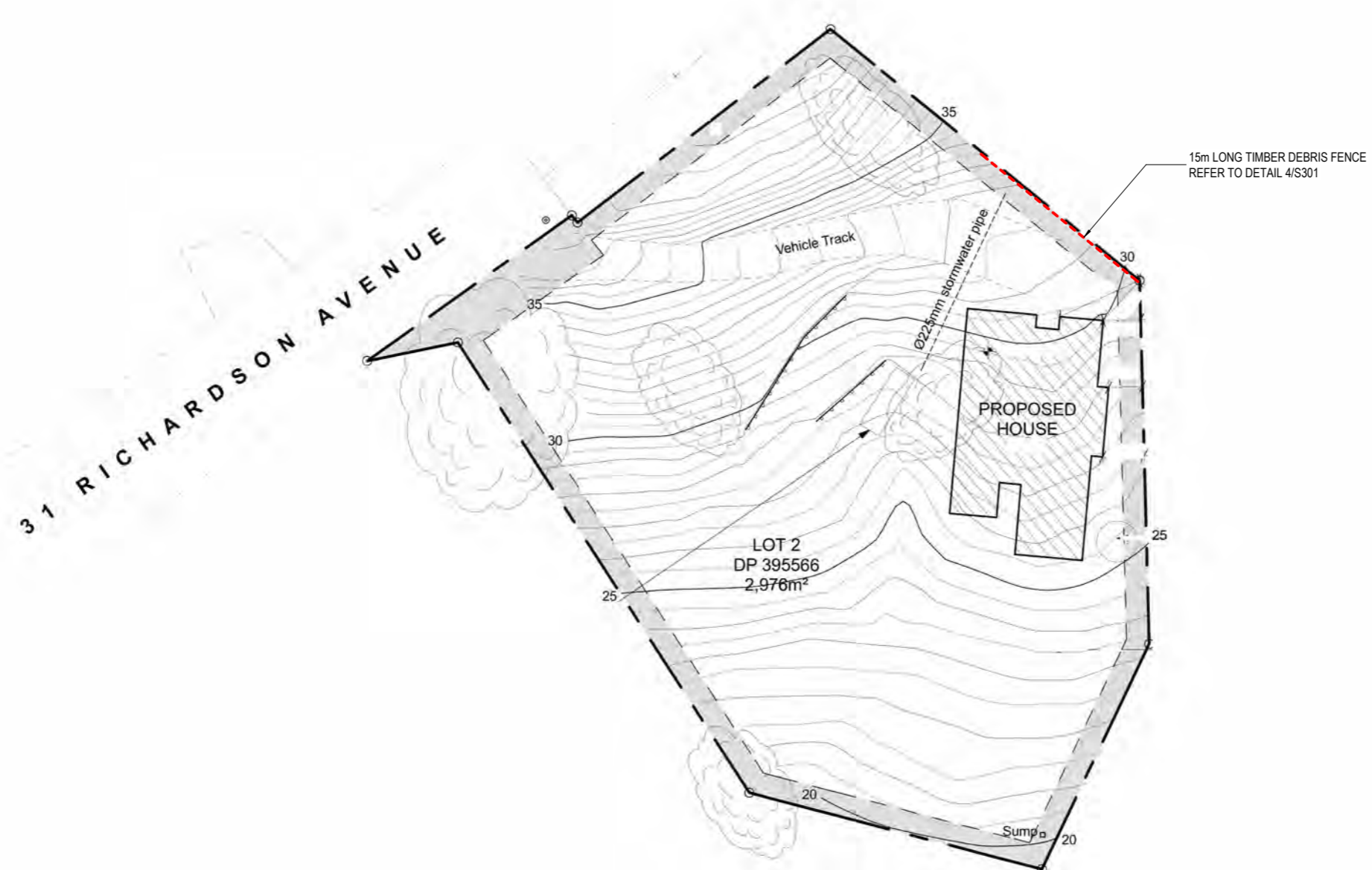
- ALL MASONRY SHALL BE LAID IN RUNNING BOND (STRETCHER BOND) UNLESS SPECIFICALLY DESIGNED FOR OTHERWISE IN THE ARCHITECTURAL AND STRUCTURAL DRAWINGS.
- ALLOW FOR MAKING ALL NECESSARY PENETRATIONS AND EMBEDMENT OF ALL NECESSARY CONDUITS AND FIXINGS IN MASONRY WALLS.
- PENETRATIONS SHALL BE FORMED IN WALLS RATHER THAN BEING CUT AFTER.
- PENETRATIONS WIDER THAN 800mm SHALL BE CONSTRUCTED IN ACCORDANCE WITH FIGURE 8.1 NZS4229:2013, ALL OTHER SMALLER VOIDS MAY BE TRIMMED OUT WITH HD16 BARS.



NOTE: CONTROL JOINTS FOR TANKED RETAINING WALLS ARE TO USE APPROVED METHODS AND SEALANTS FROM THE TANKING SYSTEM MANUFACTURERS TECHNICAL INSTRUCTIONS & DATA SHEETS.



CLIENT DANIEL ROBINSON			DESIGN: RM	PROJECT DESCRIPTION RESIDENTIAL STRUCTURAL DESIGN 31 RICHARDSON AVENUE, WHATUAPOKO, GISBORNE	DRAWING TITLE GENERAL NOTES - SHEET 02		STATUS:	
			DRAWN: JH		DATE: 30/08/2023	TEAM/DISCIPLINE: STRUCTURAL	PROJECT No: 12069	PHASE: FOR CONSENT
			CHECKED: RM					
			SCALE A3: 1 : 20				DRAWING No: 12069 - S002	REV: A



- GENERAL NOTES**
- FOR GENERAL STRUCTURAL NOTES REFER TO SHEETS S001 AND S002.
 - ALL WORK TO BE COMPLETED BY SUITABLY QUALIFIED TRADES PEOPLE (i.e. LICENCED BUILDING PRACTITIONERS WHERE REQUIRED) AND IN ACCORDANCE WITH THE NZ BUILDING CODE AND TYPICAL CODES OF BEST PRACTICE.
 - THESE PLANS ARE TO BE READ IN CONJUNCTION WITH THE ARCHITECTURAL PLANS, ALL RELATED ARCHITECTURAL OR STRUCTURAL SPECIFICATIONS AND ANY MANUFACTURER'S TECHNICAL INFORMATION.
 - REFER TO ARCHITECTURAL PLANS FOR ALL REBATES. READ IN CONJUNCTION WITH STRUCTURAL PLANS. CONTACT LDE IF DISCREPANCY.

NZS 3604 CLASSIFICATIONS

EARTHQUAKE ZONE	= ZONE 3
EXPOSURE ZONE	= ZONE C
WIND REGION	= A
WIND ZONE	= VERY HIGH
SNOW ZONE	= N/A
TECHNICAL LAND CATEGORY	= TC1

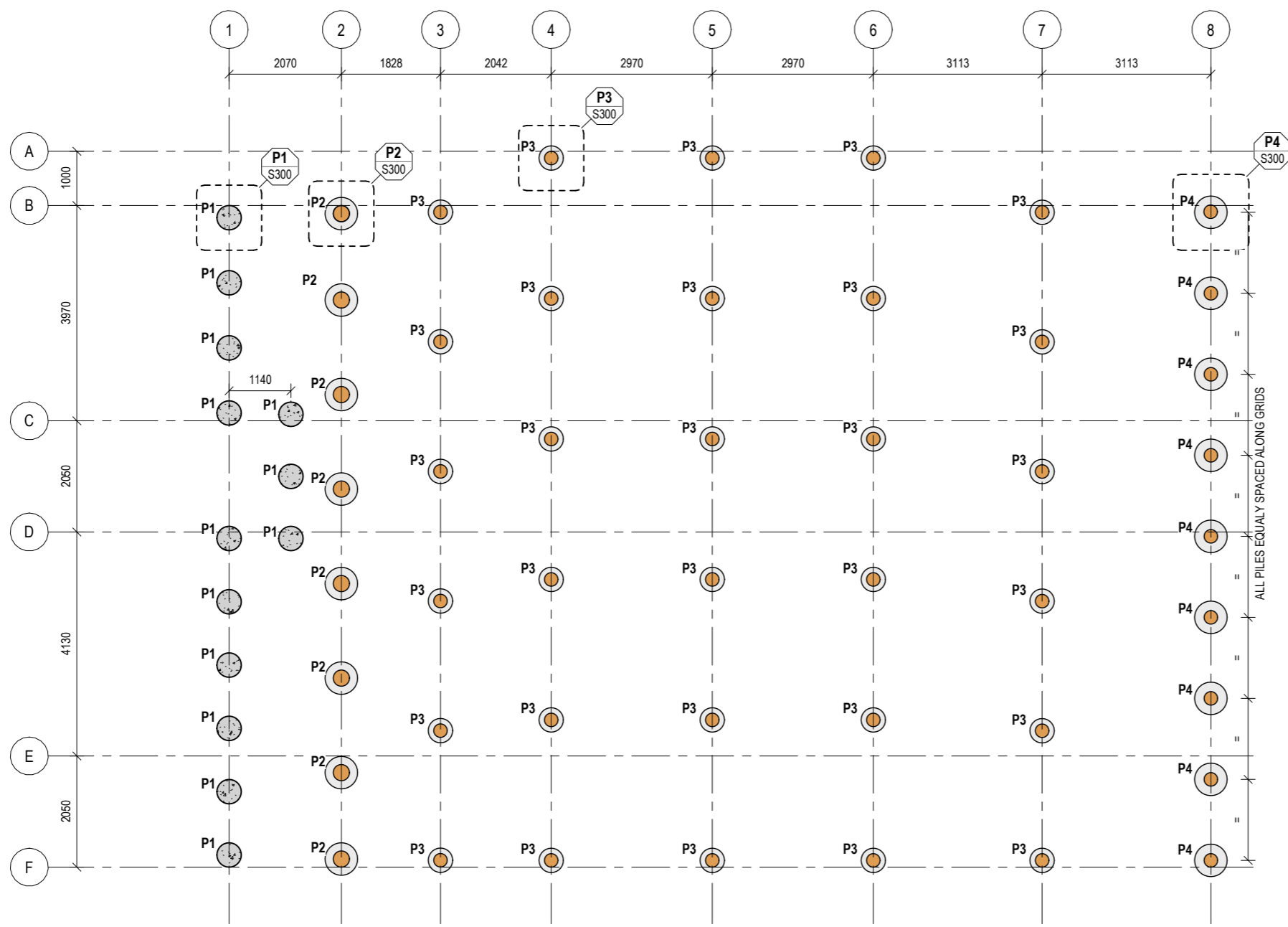
INSPECTIONS

REFER TO DESIGN FEATURES REPORT FOR INSPECTION SCHEDULE

SITE PLAN

CLIENT DANIEL ROBINSON			DESIGN: RM	PROJECT DESCRIPTION RESIDENTIAL STRUCTURAL DESIGN 31 RICHARDSON AVENUE, WHATUAPOKO, GISBORNE	DRAWING TITLE SITE PLAN	STATUS:	
			DRAWN: JH		TEAM/DISCIPLINE: STRUCTURAL	PROJECT No: 12069	PHASE: FOR CONSENT
			DATE: 30/08/2023		SERVICE:	DRAWING No: 12069 - S090	REV: A
			CHECKED: RM	SCALE A3: 1 : 20			
			A FOR CONSENT RM 30/08/2023				
			No. REVISION BY DATE				

PILE SCHEDULE			
MARK	PILE DIA	POST DIA	DEPTH BELOW EXISTING GROUND LEVEL
P1	450mm	N/A	6.0m
P2	600mm	300mm	3.5m
P3	450mm	250mm	2.5m
P4	600mm	250mm	8.0m



PILE LAYOUT PLAN
1 : 100

GENERAL NOTES

- FOR GENERAL STRUCTURAL NOTES REFER TO SHEETS S001 AND S002.
- ALL WORK TO BE COMPLETED BY SUITABLY QUALIFIED TRADES PEOPLE (i.e. LICENCED BUILDING PRACTITIONERS WHERE REQUIRED) AND IN ACCORDANCE WITH THE NZ BUILDING CODE AND TYPICAL CODES OF BEST PRACTICE.
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- REFER TO ARCHITECTURAL PLANS FOR ALL REBATES. READ IN CONJUNCTION WITH STRUCTURAL PLANS. CONTACT LDE IF DISCREPANCY.

NZS 3604 CLASSIFICATIONS

EARTHQUAKE ZONE	= ZONE 3
EXPOSURE ZONE	= ZONE C
WIND REGION	= A
WIND ZONE	= VERY HIGH
SNOW ZONE	= N/A
TECHNICAL LAND CATEGORY	= TC1

INSPECTIONS

REFER TO DESIGN FEATURES REPORT FOR INSPECTION SCHEDULE

B

CLIENT
DANIEL ROBINSON



CORE DRAFTING

No.	REVISION	BY	DATE
B	PILE REDESIGN	CD	19/12/2023
A	FOR CONSENT	RM	30/08/2023

DESIGN:	RM
DRAWN:	JH
DATE:	30/08/2023
CHECKED:	RM
SCALE A3:	1 : 100


PROJECT DESCRIPTION
RESIDENTIAL STRUCTURAL DESIGN
31 RICHARDSON AVENUE,
WHATUAPOKO, GISBORNE

DRAWING TITLE	PILE LAYOUT PLAN
TEAM/DISCIPLINE:	STRUCTURAL
SERVICE:	

STATUS:	
PROJECT No:	12069
PHASE:	FOR CONSENT
DRAWING No:	12069 - S100
REV:	B

B

LEGEND

 GARAGE AREA

GENERAL NOTES

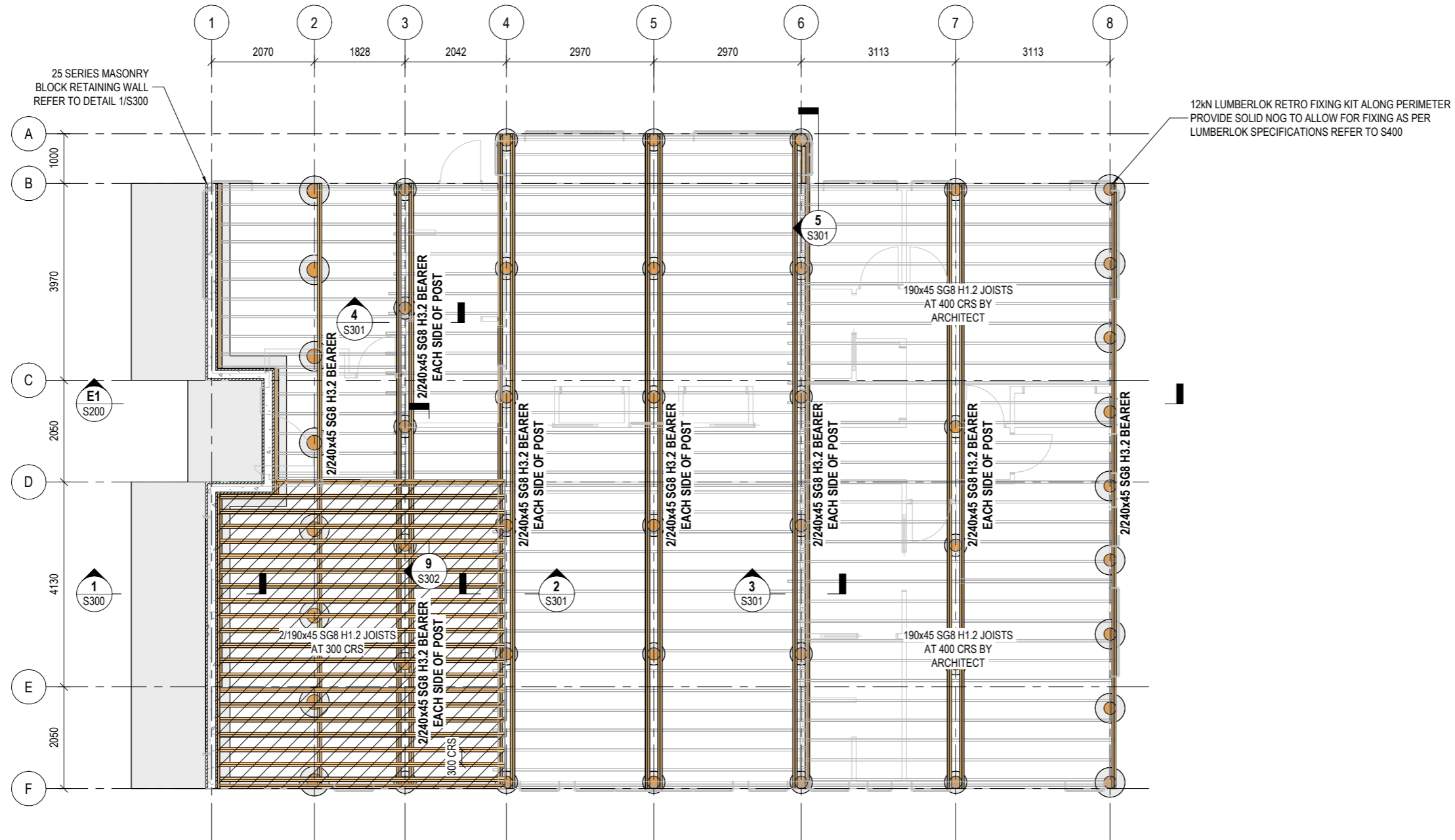
1. FOR GENERAL STRUCTURAL NOTES REFER TO SHEETS S001 AND S002.
2. ALL WORK TO BE COMPLETED BY SUITABLY QUALIFIED TRADES PEOPLE (i.e. LICENCED BUILDING PRACTITIONERS WHERE REQUIRED) AND IN ACCORDANCE WITH THE NZ BUILDING CODE AND TYPICAL CODES OF BEST PRACTICE.
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4. REFER TO ARCHITECTURAL PLANS FOR ALL REBATES, READ IN CONJUNCTION WITH STRUCTURAL PLANS, CONTACT LDE IF DISCREPANCY.

NZS 3604 CLASSIFICATIONS

EARTHQUAKE ZONE	= ZONE 3
EXPOSURE ZONE	= ZONE C
WIND REGION	= A
WIND ZONE	= VERY HIGH
SNOW ZONE	= N/A
TECHNICAL LAND CATEGORY	= TC1



INSPECTIONS

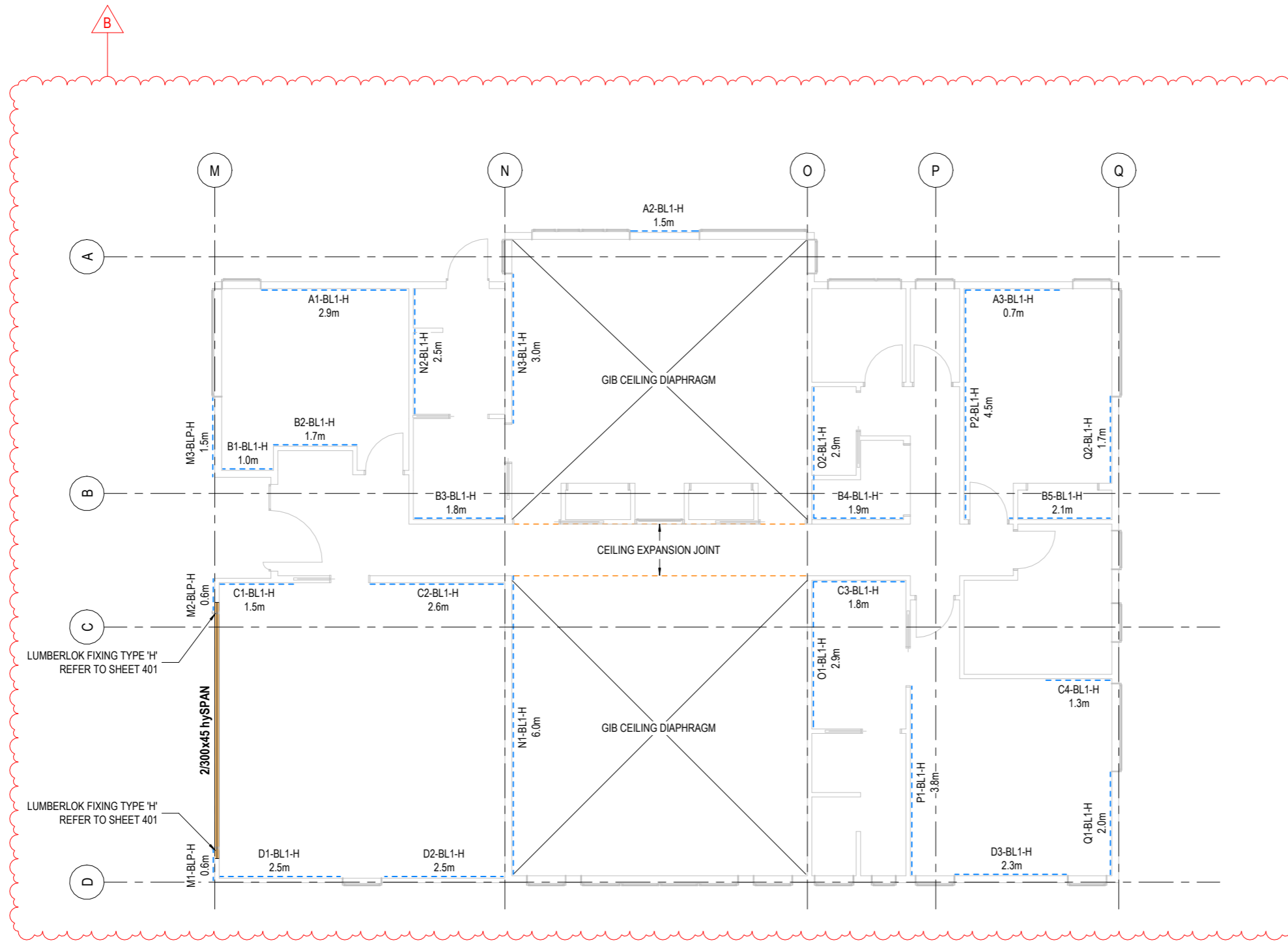
REFER TO DESIGN FEATURES REPORT FOR INSPECTION SCHEDULE



SUBFLOOR LAYOUT PLAN

1 : 100

CLIENT DANIEL ROBINSON	 LDE LAND DEVELOPMENT & ENGINEERING	 CORE DRAFTING	DESIGN: RM DRAWN: JH DATE: 30/08/2023 CHECKED: RM SCALE A3: 1 : 100				PROJECT DESCRIPTION RESIDENTIAL STRUCTURAL DESIGN 31 RICHARDSON AVENUE, WHATAUPOKO, GISBORNE		DRAWING TITLE SUBFLOOR LAYOUT PLAN		STATUS: PROJECT No: 12069 PHASE: FOR CONSENT	
			REVISION		No. BY DATE		TEAM/DISCIPLINE: STRUCTURAL		SERVICE:		DRAWING No: 12069 - S101 REV: B	



BRACING PLAN

1 : 100

GENERAL NOTES

- FOR GENERAL STRUCTURAL NOTES REFER TO SHEETS S001 AND S002.
- ALL WORK TO BE COMPLETED BY SUITABLY QUALIFIED TRADES PEOPLE (i.e. LICENCED BUILDING PRACTITIONERS WHERE REQUIRED) AND IN ACCORDANCE WITH THE NZ BUILDING CODE AND TYPICAL CODES OF BEST PRACTICE.
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- REFER TO ARCHITECTURAL PLANS FOR ALL REBATES. READ IN CONJUNCTION WITH STRUCTURAL PLANS. CONTACT LDE IF DISCREPANCY.

NZS 3604 CLASSIFICATIONS

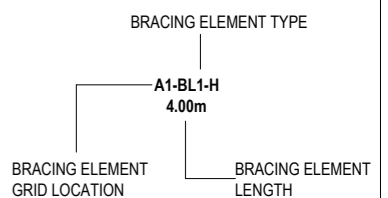
EARTHQUAKE ZONE	= ZONE 3
EXPOSURE ZONE	= ZONE C
WIND REGION	= A
WIND ZONE	= VERY HIGH
SNOW ZONE	= N/A
TECHNICAL LAND CATEGORY	= TC1

INSPECTIONS

REFER TO DESIGN FEATURES REPORT FOR INSPECTION SCHEDULE

BRACING NOTES

- ALL BRACING ELEMENTS TO BE INSTALLED AS PER MANUFACTURERS GUIDELINES AND SPECIFICATIONS. NOTE THE ADDITIONAL REQUIREMENTS OF HOLD DOWN BRACKETS, CLEATS OR STRAPS BETWEEN THE STUD AND BOTTOM PLATE FOR HIGHER RATED BRACING ELEMENTS. TRUSS MANUFACTURER TO PROVIDE DESIGN AND DETAILS OF HOLD DOWN REQUIREMENTS OF TRUSS UNITS.
- BRACING HAS BEEN DESIGNED IN ACCORDANCE WITH GIB EZYBRACE SYSTEMS (AUGUST 2016). ALL CONSTRUCTION AND INSTALLATION OF BRACING ELEMENTS TO COMPLY WITH GIB'S INSTALLATION GUIDELINES. REFER TO GIB EZYBRACE SPREADSHEET FOR STRUCTURAL CALCULATIONS
- BRACING KEY:



LEGEND

- BRACING LINE
- 12KN TOP-PLATE FIXINGS

CLIENT
DANIEL ROBINSON



No.	REVISION	BY	DATE
B	PILE REDESIGN	CD	19/12/2023
A	FOR CONSENT	RM	30/08/2023

DESIGN:	RM
DRAWN:	JH
DATE:	30/08/2023
CHECKED:	RM
SCALE A3:	1 : 100

PROJECT DESCRIPTION
RESIDENTIAL STRUCTURAL DESIGN
31 RICHARDSON AVENUE,
WHATAUPOKO, GISBORNE

DRAWING TITLE	BRACING PLAN
TEAM/DISCIPLINE:	STRUCTURAL
SERVICE:	

STATUS:	
PROJECT No:	12069
PHASE:	FOR CONSENT
DRAWING No:	12069 - S103
REV:	B

GENERAL NOTES

- FOR GENERAL STRUCTURAL NOTES REFER TO SHEETS S001 AND S002.
- ALL WORK TO BE COMPLETED BY SUITABLY QUALIFIED TRADES PEOPLE (i.e. LICENCED BUILDING PRACTITIONERS WHERE REQUIRED) AND IN ACCORDANCE WITH THE NZ BUILDING CODE AND TYPICAL CODES OF BEST PRACTICE.
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NZS 3604 CLASSIFICATIONS

EARTHQUAKE ZONE	= ZONE 3
EXPOSURE ZONE	= ZONE C
WIND REGION	= A
WIND ZONE	= VERY HIGH
SNOW ZONE	= N/A
TECHNICAL LAND CATEGORY	= TC1

INSPECTIONS

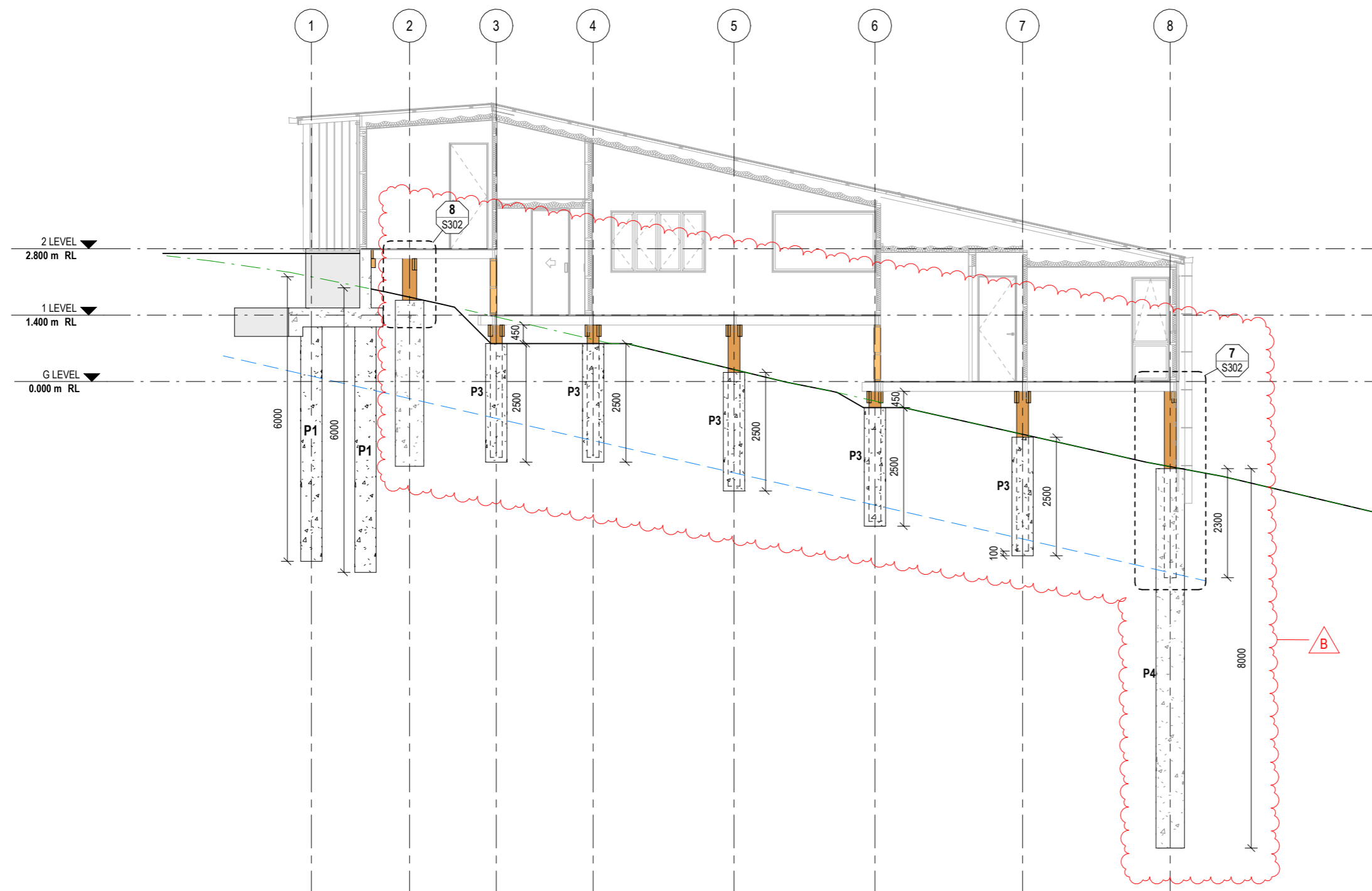
REFER TO DESIGN FEATURES REPORT FOR INSPECTION SCHEDULE

PILE NOTES

- ALL CONCRETE TO BE 30MPa

LEGEND

- SLIP PLANE
- EXISTING GROUND LEVEL

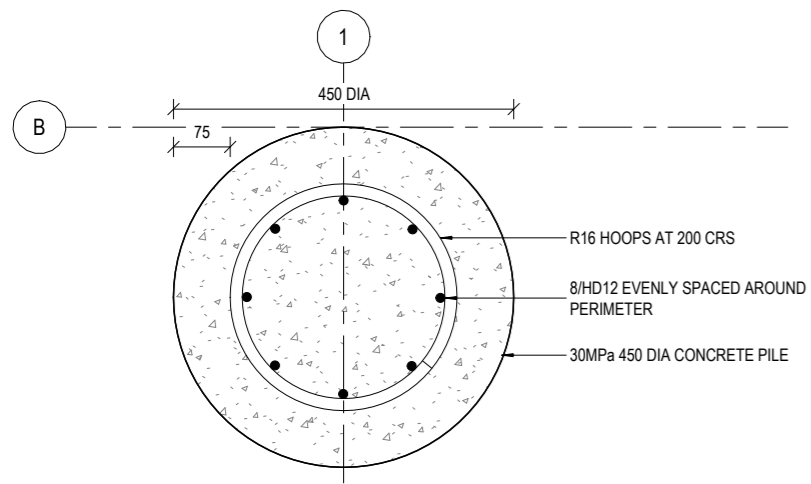


E1 ELEVATION
S101 1 : 100

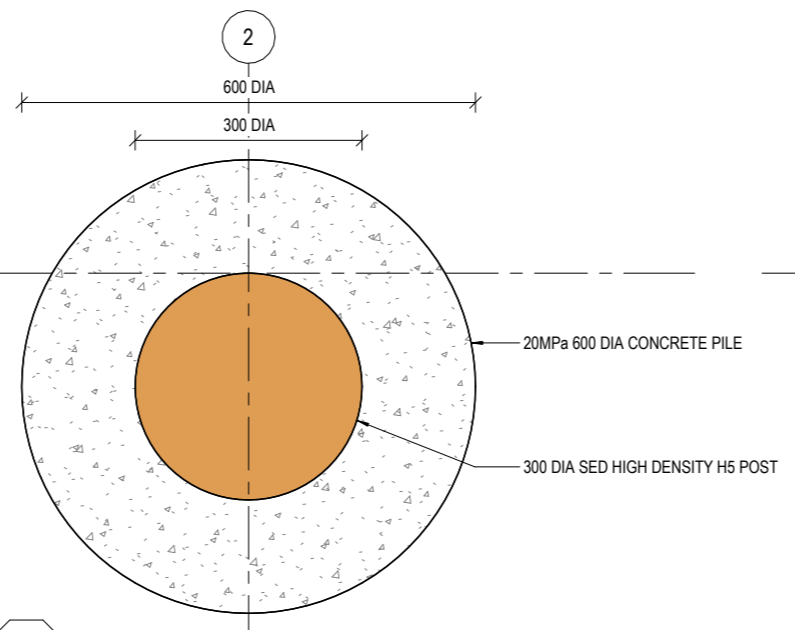
PILE SCHEDULE			
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P1	450mm	N/A	6.0m
P2	600mm	300mm	3.5m
P3	450mm	250mm	2.5m
P4	600mm	250mm	8.0m

CLIENT DANIEL ROBINSON			DESIGN: RM	PROJECT DESCRIPTION RESIDENTIAL STRUCTURAL DESIGN 31 RICHARDSON AVENUE, WHATUAPOKO, GISBORNE	DRAWING TITLE ELEVATION	STATUS: PROJECT No: 12069 PHASE: FOR CONSENT												
			DRAWN: JH		DRAWING No: 12069 - S200		REV: B											
			DATE: 30/08/2023	SCALE A3: 1 : 100	TEAM/DISCIPLINE: STRUCTURAL	DRAWING No: 12069 - S200												
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No.	REVISION	BY	DATE															
B	PILE REDESIGN	CD	19/12/2023															
A	FOR CONSENT	RM	30/08/2023															

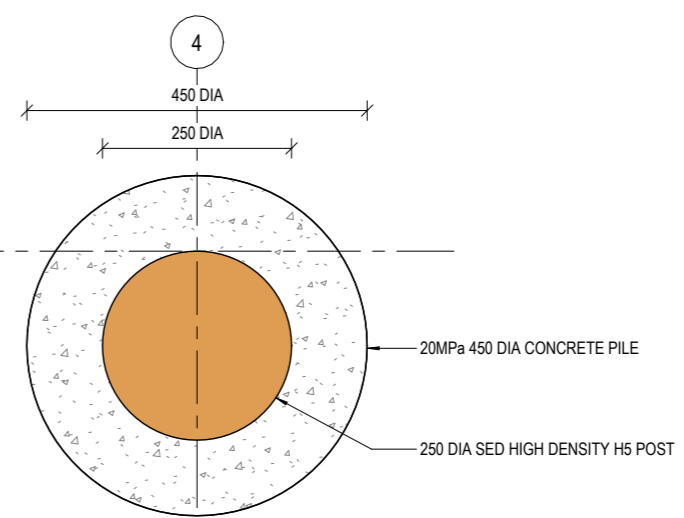
PILE SCHEDULE			
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P2	600mm	300mm	3.5m
P3	450mm	250mm	2.5m
P4	600mm	250mm	9.5m



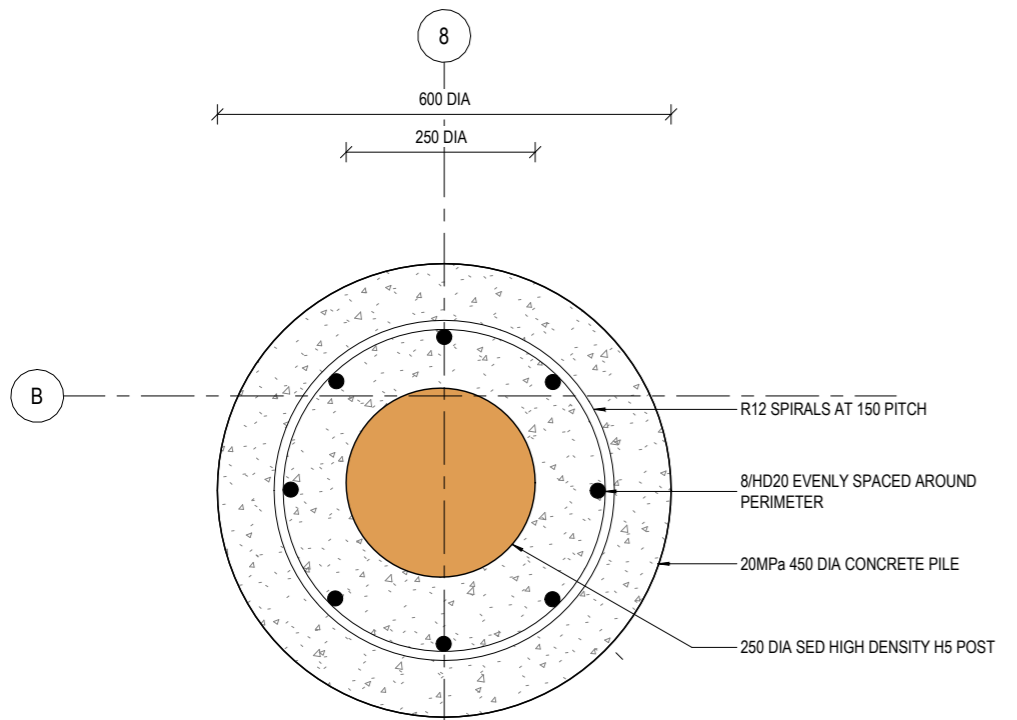
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S100 1:10



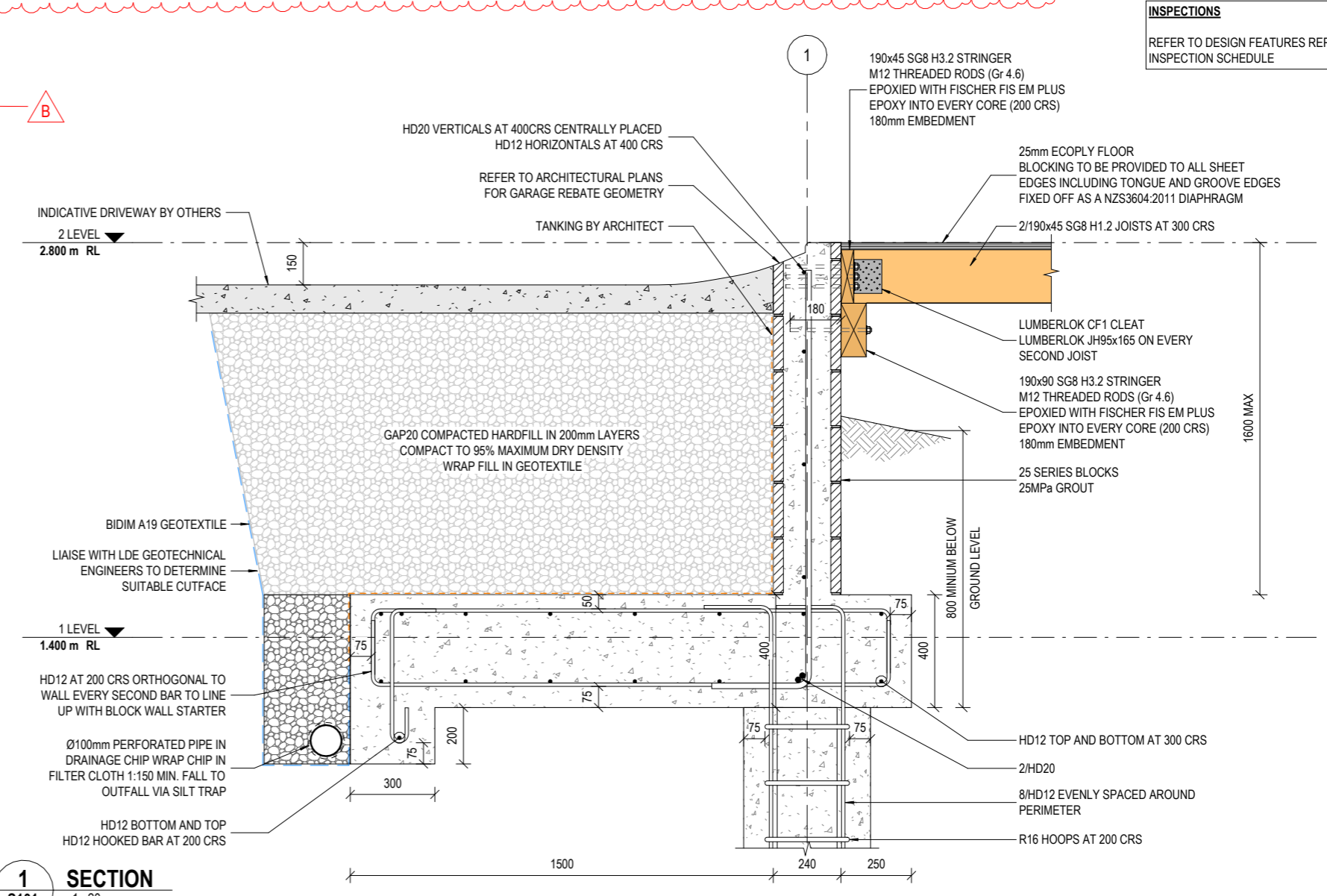
P2 DETAIL
S100 1:10



P3 DETAIL
S100 1:10



P4 DETAIL
S100 1:10



1 SECTION
S101 1:20

- GENERAL NOTES**
- FOR GENERAL STRUCTURAL NOTES REFER TO SHEETS S001 AND S002.
 - ALL WORK TO BE COMPLETED BY SUITABLY QUALIFIED TRADES PEOPLE (ie LICENCED BUILDING PRACTITIONERS WHERE REQUIRED) AND IN ACCORDANCE WITH THE NZ BUILDING CODE AND TYPICAL CODES OF BEST PRACTICE.
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 - REFER TO ARCHITECTURAL PLANS FOR ALL REBATES. READ IN CONJUNCTION WITH STRUCTURAL PLANS. CONTACT LDE IF DISCREPANCY.
- NZS 3604 CLASSIFICATIONS**
- EARTHQUAKE ZONE = ZONE 3
 EXPOSURE ZONE = ZONE C
 WIND REGION = A
 WIND ZONE = VERY HIGH
 SNOW ZONE = N/A
 TECHNICAL LAND CATEGORY = TC1
- INSPECTIONS**
- REFER TO DESIGN FEATURES REPORT FOR INSPECTION SCHEDULE

CLIENT
DANIEL ROBINSON



CORE DRAFTING

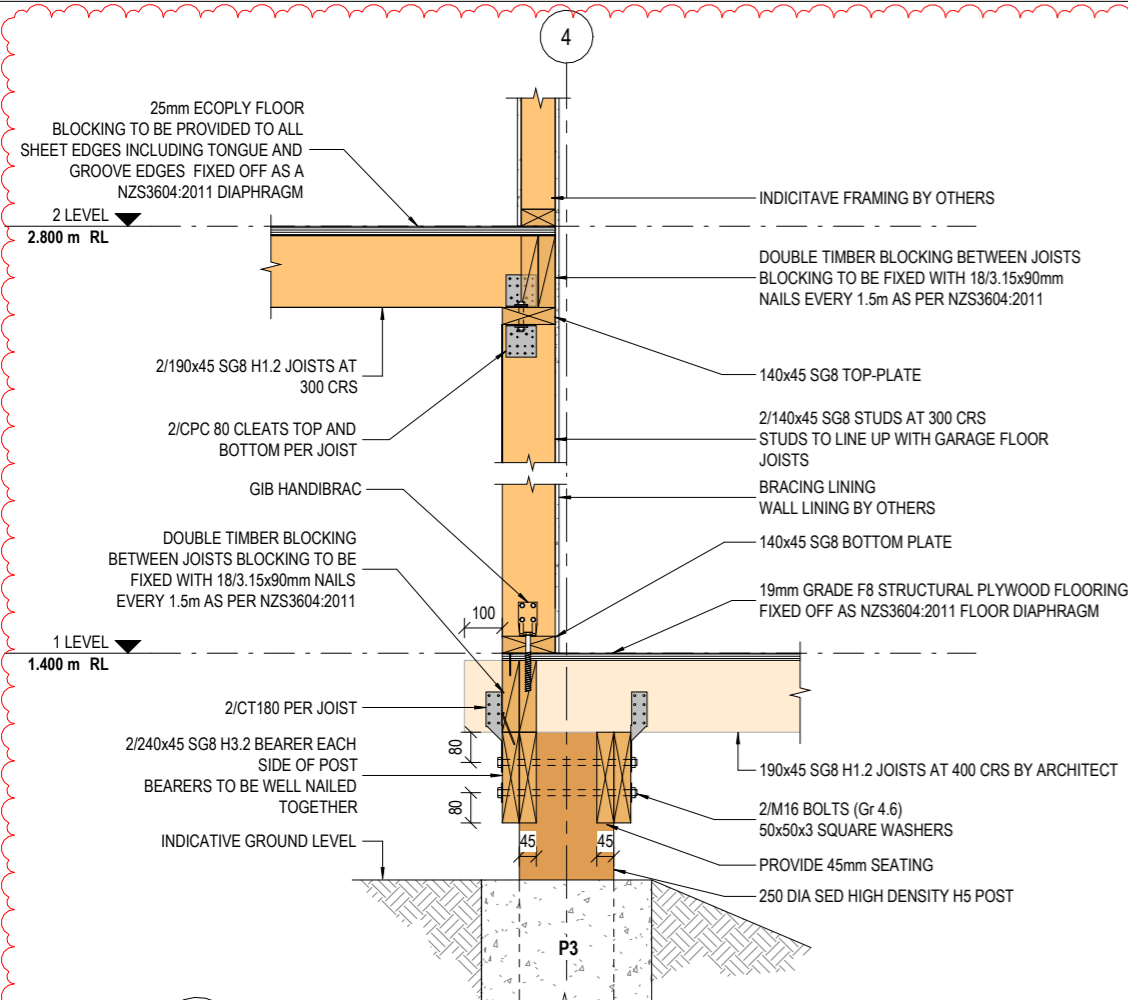
No.	REVISION	BY	DATE
B	PILE REDESIGN	CD	19/12/2023
A	FOR CONSENT	RM	30/08/2023

DESIGN: RM
 DRAWN: JH
 DATE: 30/08/2023
 CHECKED: RM
 SCALE A3: As indicated

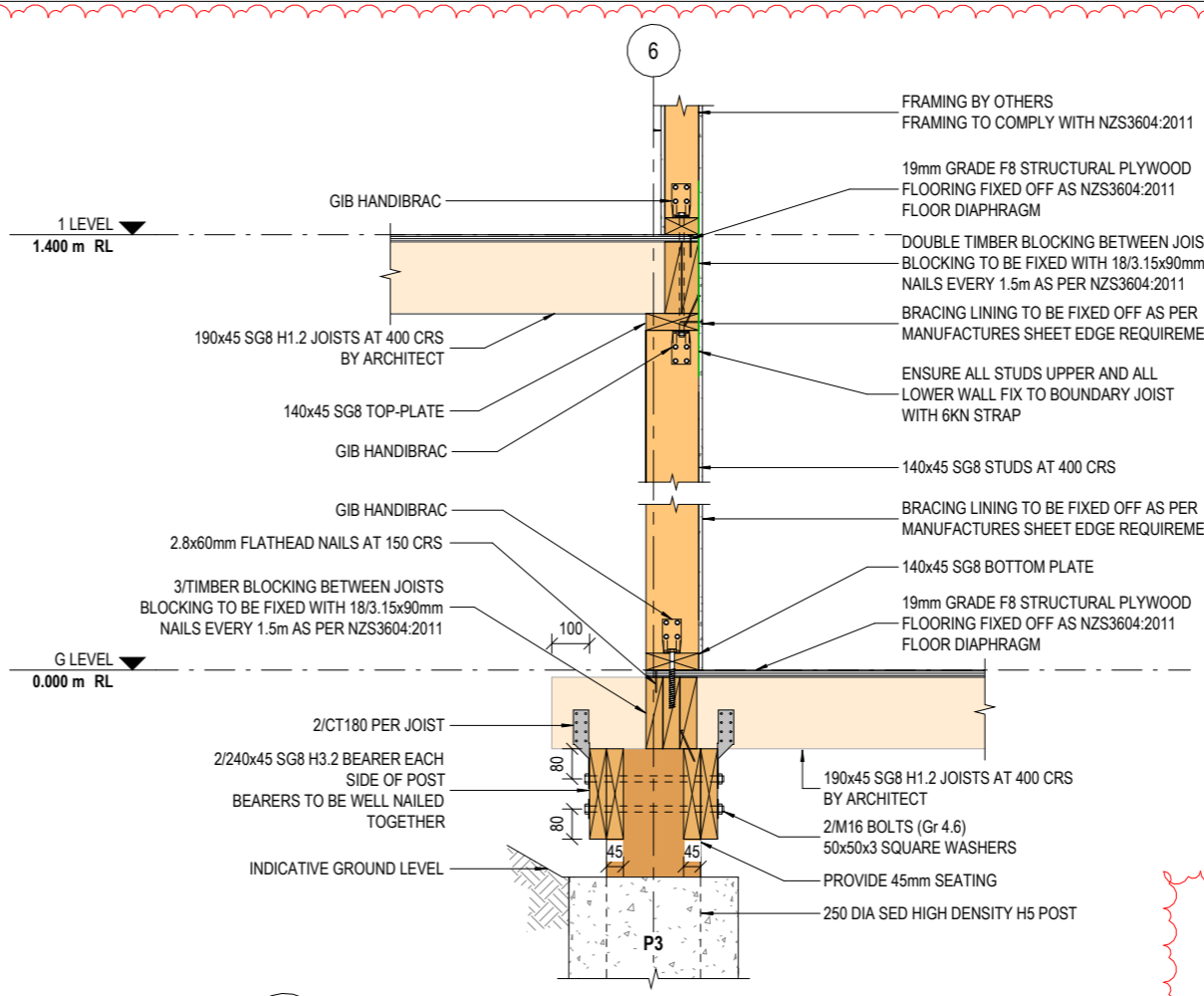
PROJECT DESCRIPTION
 RESIDENTIAL STRUCTURAL DESIGN
 31 RICHARDSON AVENUE,
 WHATAUPOKO, GISBORNE

DRAWING TITLE
 DETAILS - SHEET 01
 TEAM/DISCIPLINE: STRUCTURAL
 SERVICE:

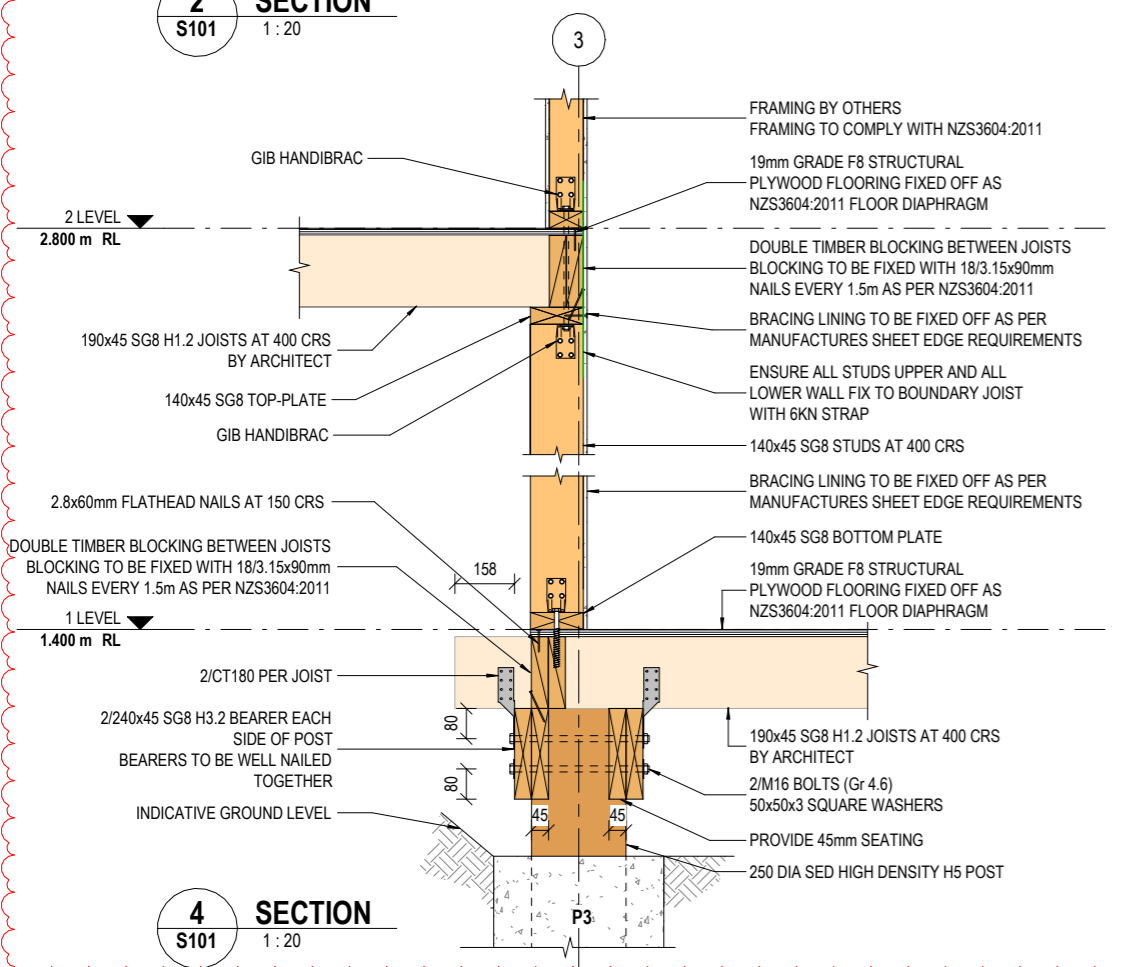
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 PROJECT No: 12069
 PHASE: FOR CONSENT
 DRAWING No: 12069 - S300
 REV: B



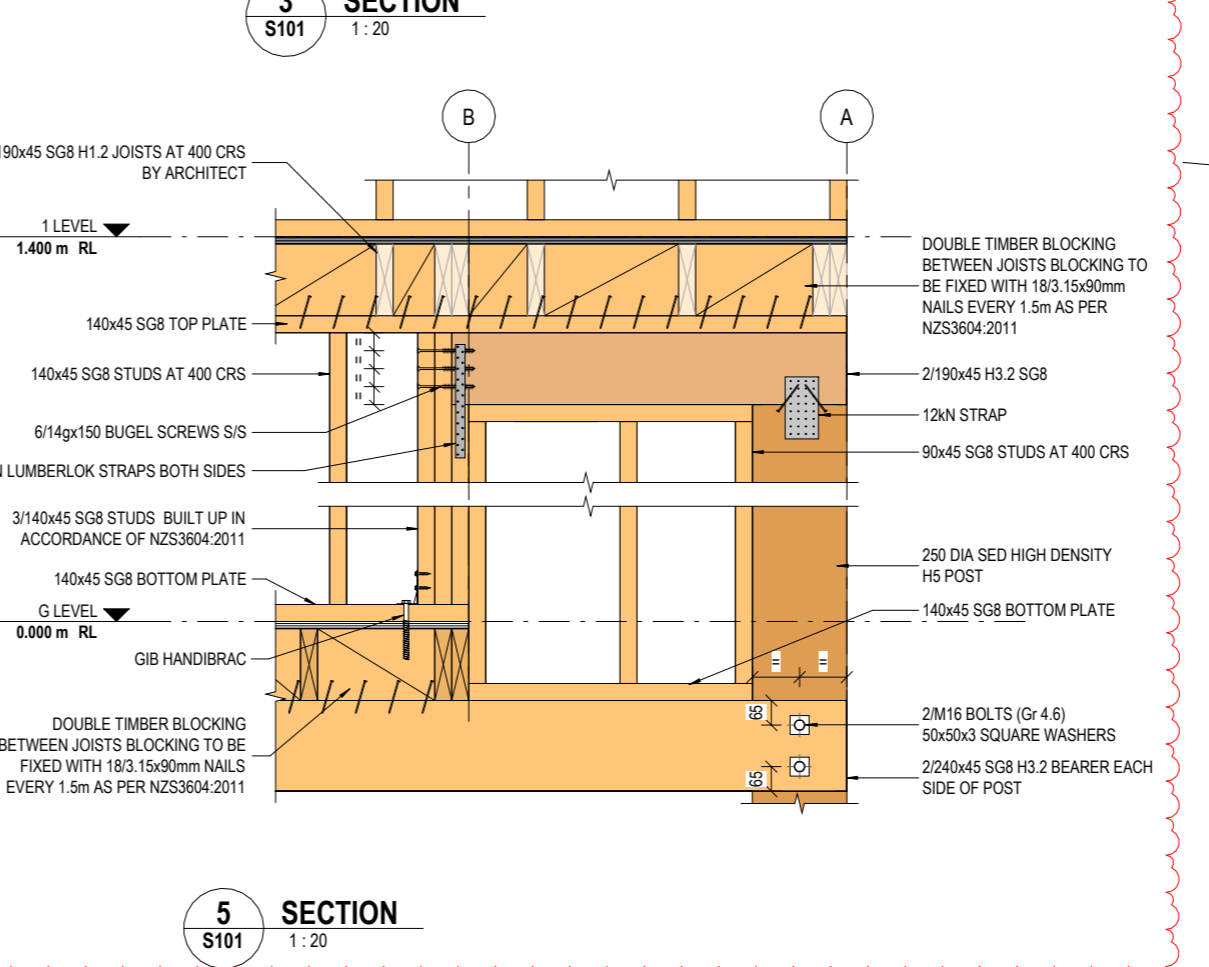
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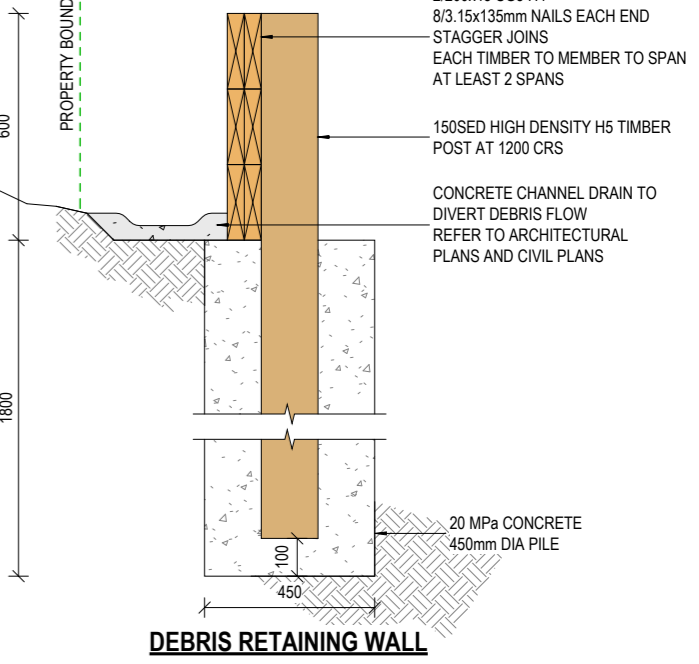
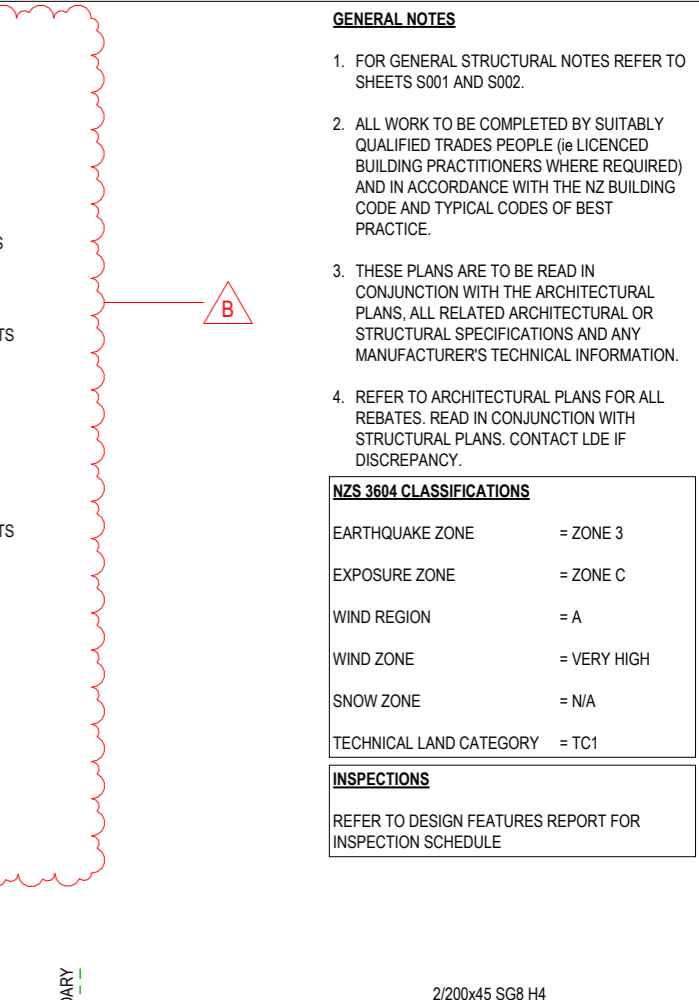
3 SECTION
S101 1:20



4 SECTION
S101 1:20



5 SECTION
S101 1:20



6 SECTION
1:20

GENERAL NOTES

- FOR GENERAL STRUCTURAL NOTES REFER TO SHEETS S001 AND S002.
- ALL WORK TO BE COMPLETED BY SUITABLY QUALIFIED TRADES PEOPLE (ie LICENCED BUILDING PRACTITIONERS WHERE REQUIRED) AND IN ACCORDANCE WITH THE NZ BUILDING CODE AND TYPICAL CODES OF BEST PRACTICE.
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NZS 3604 CLASSIFICATIONS

EARTHQUAKE ZONE = ZONE 3
 EXPOSURE ZONE = ZONE C
 WIND REGION = A
 WIND ZONE = VERY HIGH
 SNOW ZONE = N/A
 TECHNICAL LAND CATEGORY = TC1

INSPECTIONS

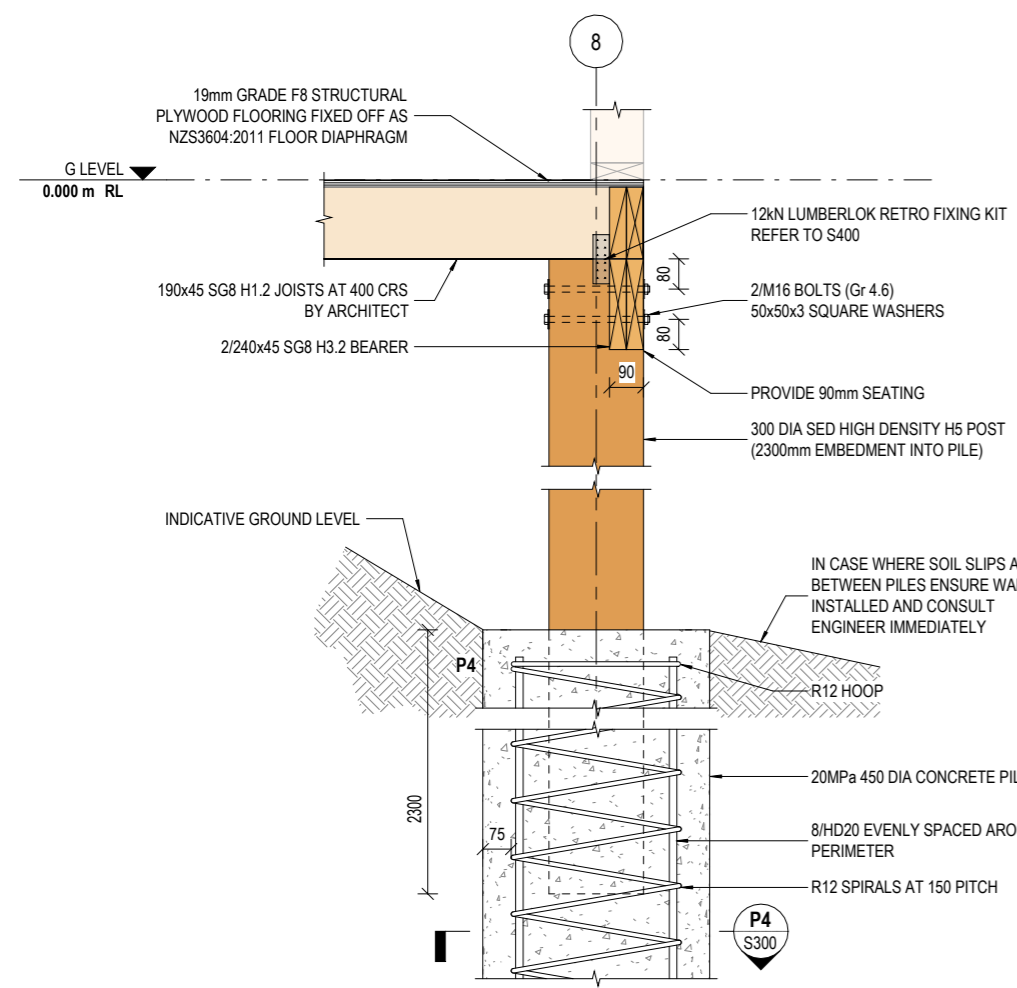
REFER TO DESIGN FEATURES REPORT FOR INSPECTION SCHEDULE

PILE SCHEDULE			
MARK	PILE DIA	POST DIA	DEPTH BELOW EXISTING GROUND LEVEL
P1	450mm	N/A	6.0m
P2	600mm	300mm	3.5m
P3	450mm	250mm	2.5m
P4	600mm	250mm	9.5m

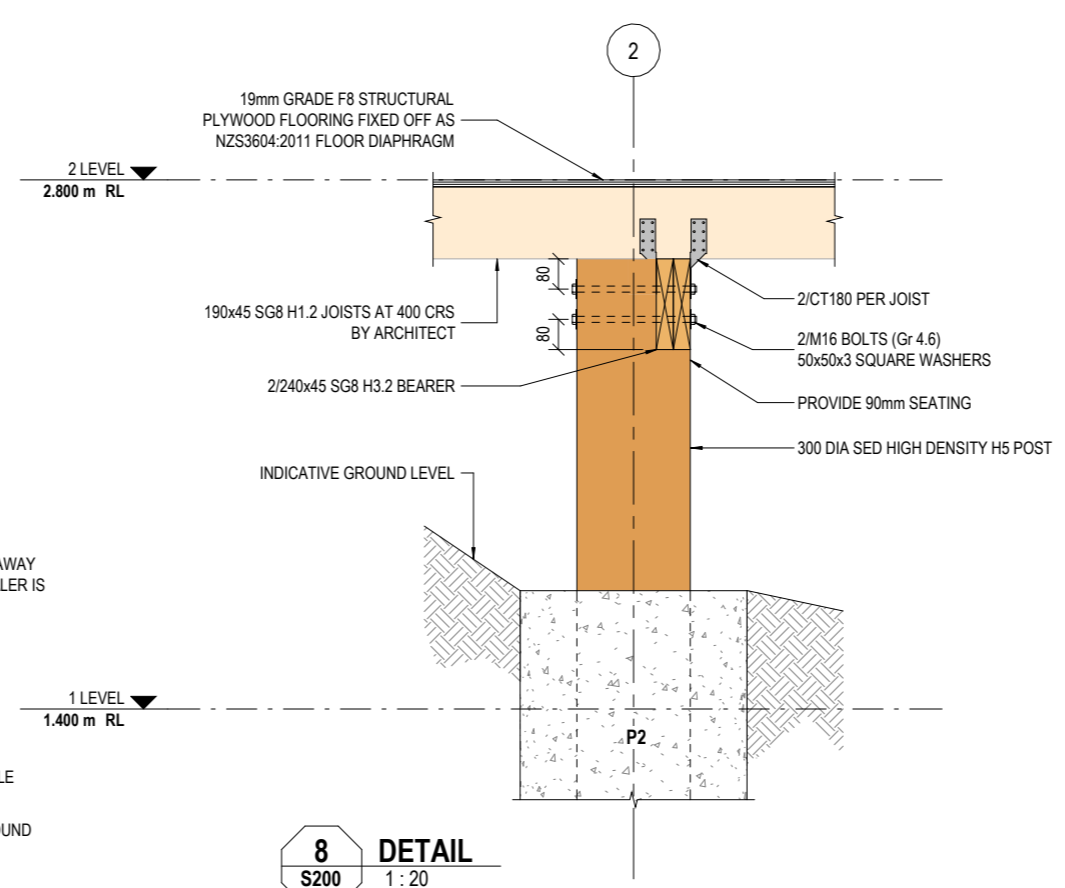
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			CHECKED: RM		SERVICE:	REV: B
			SCALE A3: 1:20			

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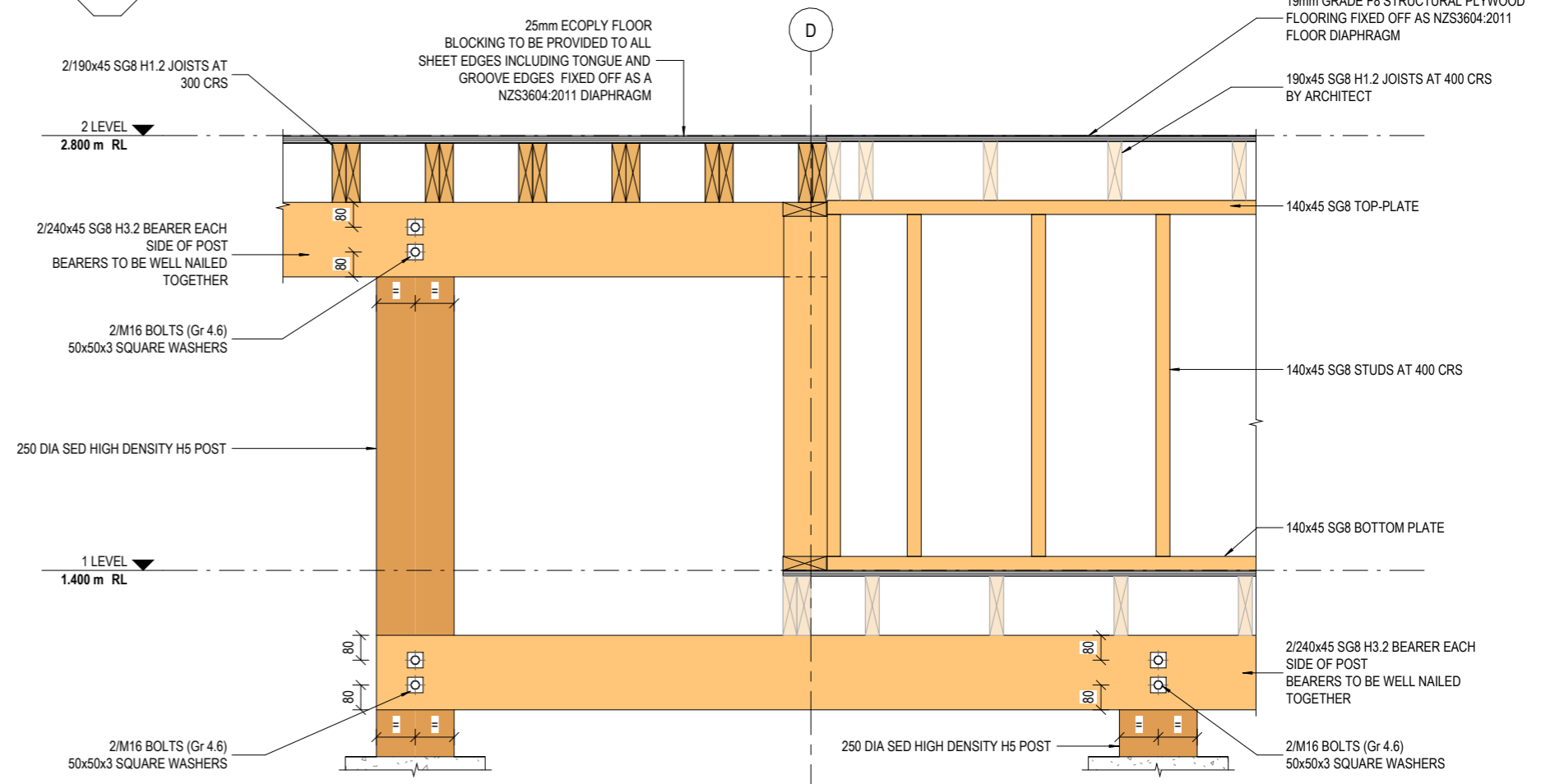
www.lde.co.nz



7 DETAIL
S200 1:20



8 DETAIL
S200 1:20



9 SECTION
S101 1:20

PILE SCHEDULE			
MARK	PILE DIA	POST DIA	DEPTH BELOW EXISTING GROUND LEVEL
P1	450mm	N/A	6.0m
P2	600mm	300mm	3.5m
P3	450mm	250mm	2.5m
P4	600mm	250mm	9.5m

- GENERAL NOTES**
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- NZS 3604 CLASSIFICATIONS**
- EARTHQUAKE ZONE = ZONE 3
 EXPOSURE ZONE = ZONE C
 WIND REGION = A
 WIND ZONE = VERY HIGH
 SNOW ZONE = N/A
 TECHNICAL LAND CATEGORY = TC1
- INSPECTIONS**
- REFER TO DESIGN FEATURES REPORT FOR INSPECTION SCHEDULE

CLIENT
DANIEL ROBINSON



CORE DRAFTING

No.	REVISION	BY	DATE
A	PILE REDESIGN	CD	19/12/2023

DESIGN: RM
 DRAWN: JH
 DATE: 20/12/2023
 CHECKED: RM
 SCALE A3: 1:20

PROJECT DESCRIPTION
 RESIDENTIAL STRUCTURAL DESIGN
 31 RICHARDSON AVENUE,
 WHATAUPOKO, GISBORNE

DRAWING TITLE
 DETAILS - SHEET 03

TEAM/DISCIPLINE: STRUCTURAL

SERVICE:

STATUS:

PROJECT No: 12069 PHASE: FOR CONSENT

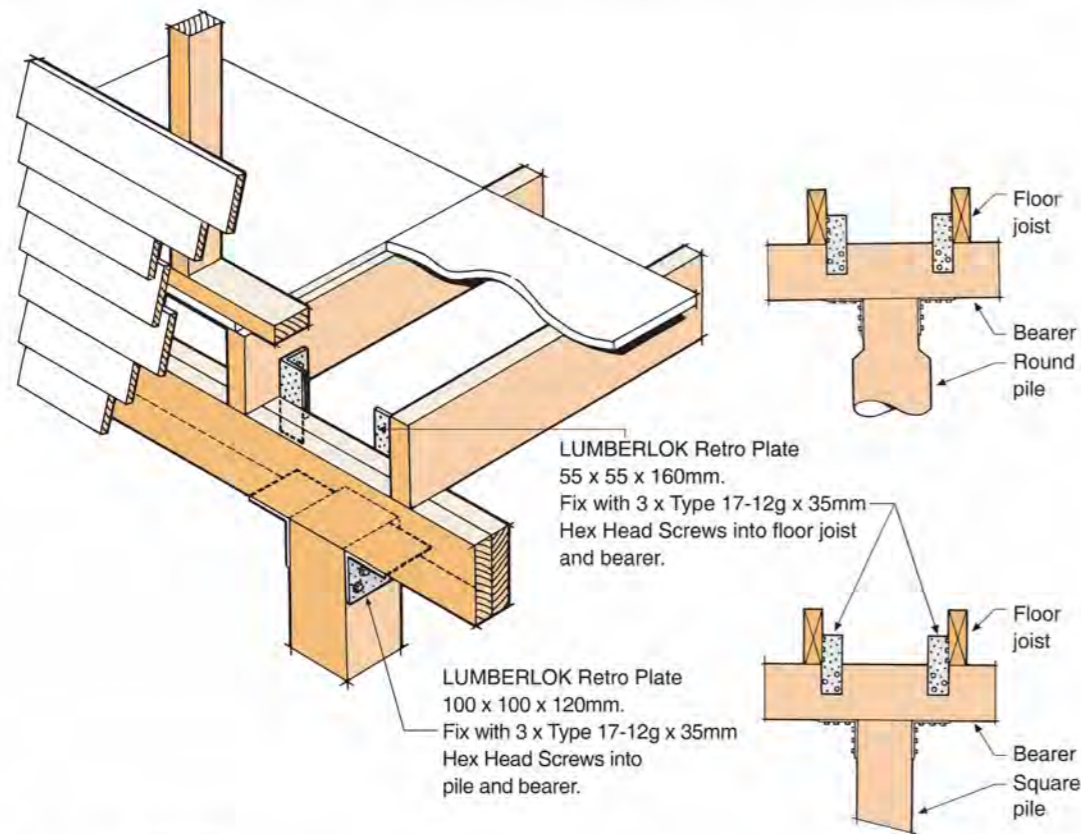
DRAWING No: 12069 - S302 REV: A



10/2011

12kN RETRO SUBFLOOR FIXING

- ★ Fixing to be used when the outside face of the bearer is not accessible e.g. fixing relocatable houses to piles.
- ★ Hot Dip Galvanised or Stainless Steel options available for required corrosive zone.



Code: 12KNRF
Material: 0.91mm G300 Z275 (Hot Dip Galvanised Steel)

Code: 12KNRFH
Material: 0.9mm Stainless Steel 304-2B

Packed: 8 x Retro Plate 55 x 55 x 160mm
 8 x Retro Plate 100 x 100 x 120mm
 100 x Type 17-12g x 35mm Hex Head Screws



SCAN FOR
INSTALLATION
VIDEO

<https://vimeo.com/117351501>



MiTek New Zealand Limited

AUCKLAND
 PO Box 58-014, Botany 2163
 Phone: 09-274 7109
 Fax: 09-274 7100

www.mitek.nz

CHRISTCHURCH
 PO Box 8387, Riccarton 8440
 Phone: 03-348 8691
 Fax: 03-348 0314

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GENERAL NOTES

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NZS 3604 CLASSIFICATIONS

EARTHQUAKE ZONE	= ZONE 3
EXPOSURE ZONE	= ZONE C
WIND REGION	= A
WIND ZONE	= VERY HIGH
SNOW ZONE	= N/A
TECHNICAL LAND CATEGORY	= TC1

INSPECTIONS

REFER TO DESIGN FEATURES REPORT FOR INSPECTION SCHEDULE

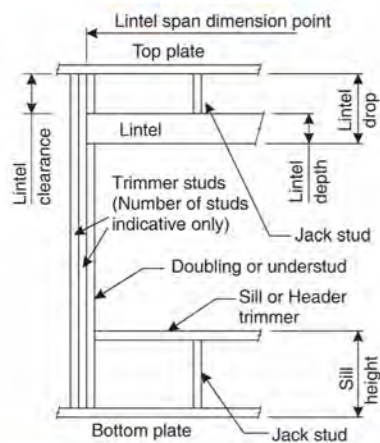
CLIENT DANIEL ROBINSON			DESIGN: RM	PROJECT DESCRIPTION RESIDENTIAL STRUCTURAL DESIGN 31 RICHARDSON AVENUE, WHATUAPOKO, GISBORNE	DRAWING TITLE LUMBERLOK DETAILS	STATUS:	
			DRAWN: JH		DATE: 30/08/2023	TEAM/DISCIPLINE: STRUCTURAL	PROJECT No: 12069
			CHECKED: RM	SCALE A3:	SERVICE:	DRAWING No: 12069 - S400	REV: B

LINTEL FIXING SCHEDULE ALTERNATIVE TO TABLE 8.14 & FIGURE 8.12 NZS 3604:2011

NOTE:

- All fixings are designed for vertical loads only. Dead loads include the roof weight and standard ceiling weight of 0.20kPa.
- Refer to Table 8.19 NZS 3604:2011 for nailing schedule to resist horizontal loads.
- These fixings assume the correct choice of rafter/truss to top plate connections have been made.
- All fixings assume bottom plate thickness of 45mm maximum. Note: TYLOK options on timber species.
- Wall framing arrangements under girder trusses are not covered in this schedule.
- All timber selections are as per NZS 3604:2011.

DEFINITIONS

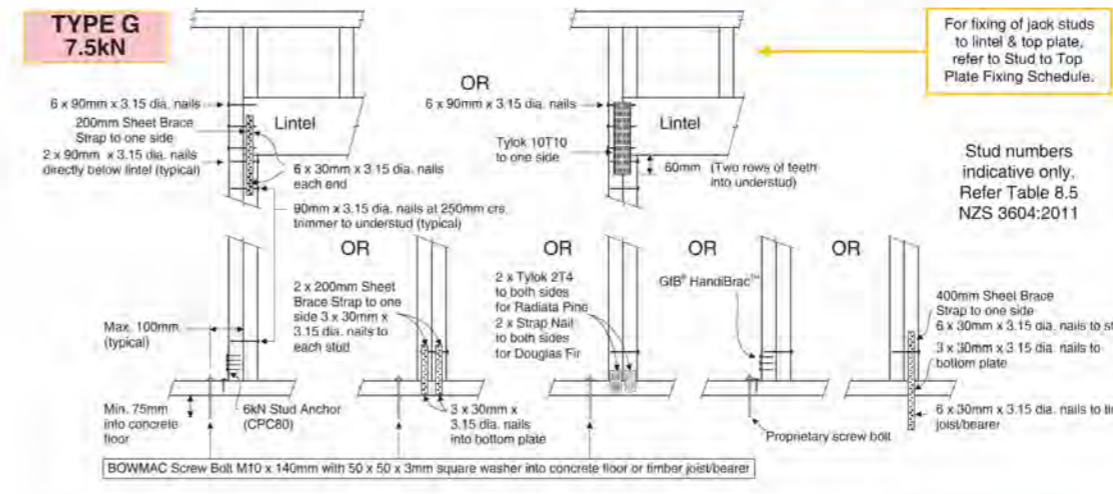
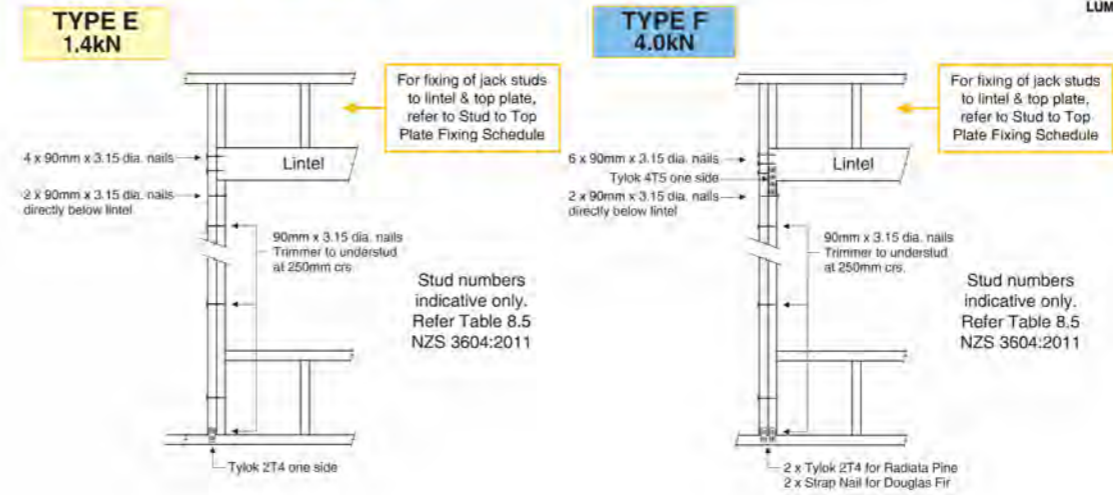


Roof Tributary Area	Lintel Supporting Girder Trusses					
	Light Roof Wind Zone			Heavy Roof Wind Zone		
	L, M, H	VH	EH	L, M, H	VH	EH
8.6m²	G	G	H	G	G	H
11.6m²	G	H	H	G	G	H
12.1m²	G	H	H	G	H	H
15.3m²	H	H	-	G	H	H
19.1m²	H	-	-	G	H	-
20.9m²	H	-	-	H	H	-
21.8m²	H	-	-	H	-	-
34.3m²	-	-	-	H	-	-

- NOTES:**
- Roof Tributary Area = approx. 1/2 x (Total roof area on girder and rafter trusses supported by lintel)
 - Assumed girder truss is at mid-span or middle third span of lintel
 - Use similar fixings for both ends of lintel
 - All other cases require specific engineering design

Lintel Span (m)	Loaded Dimension (m) (See Fig. 1.3 NZS 3604:2011)	Light Roof Wind Zone					Heavy Roof Wind Zone				
		L	M	H	VH	EH	L	M	H	VH	EH
1.0	2.0	E	E	E	F	F	E	E	E	E	F
	3.0	E	E	F	F	F	E	E	E	F	F
	4.0	E	F	F	F	G	E	E	F	F	F
	5.0	E	F	F	G	G	E	E	F	F	G
	6.0	E	F	F	G	G	E	E	F	F	G
1.2	2.0	E	E	F	F	F	E	E	E	F	F
	3.0	E	E	F	F	F	E	E	F	F	F
	4.0	E	F	F	G	G	E	E	F	F	G
	5.0	E	F	F	G	G	E	E	F	F	G
	6.0	F	F	G	G	H	E	E	F	F	G
1.5	2.0	E	E	F	F	F	E	E	E	F	F
	3.0	E	F	F	F	G	E	E	F	F	F
	4.0	E	F	F	G	G	E	E	F	F	G
	5.0	F	F	G	G	H	E	E	F	F	G
	6.0	F	F	G	H	H	E	E	F	F	G
2.0	2.0	E	F	F	F	G	E	E	F	F	F
	3.0	E	F	F	F	G	E	E	F	F	G
	4.0	F	F	G	G	H	E	E	F	F	G
	5.0	F	F	G	H	H	E	E	F	F	G
	6.0	F	F	G	H	H	E	E	F	F	G
2.4	2.0	E	F	F	F	G	E	E	F	F	F
	3.0	F	F	G	G	H	E	E	F	F	G
	4.0	F	F	G	H	H	E	E	F	F	G
	5.0	F	F	G	H	H	E	E	F	F	G
	6.0	F	F	G	H	H	E	E	F	F	G
3.0	2.0	E	F	F	F	G	E	E	F	F	G
	3.0	F	F	G	H	H	E	E	F	F	G
	4.0	F	F	G	H	H	E	E	F	F	G
	5.0	F	F	G	H	H	E	E	F	F	G
	6.0	F	F	G	H	H	E	E	F	F	G
3.6	2.0	F	F	G	H	H	E	E	F	F	G
	3.0	F	F	G	H	H	E	E	F	F	G
	4.0	F	F	G	H	H	E	E	F	F	G
	5.0	F	F	G	H	H	E	E	F	F	G
	6.0	G	H	H	-	-	E	F	H	-	-
4.2	2.0	F	F	G	H	H	E	E	F	F	G
	3.0	F	F	G	H	H	E	E	F	F	G
	4.0	F	F	G	H	H	E	E	F	F	G
	5.0	G	H	H	-	-	E	F	H	-	-
	6.0	G	H	H	-	-	E	F	H	-	-
4.5	2.0	F	F	G	H	H	E	E	F	F	G
	3.0	F	F	G	H	H	E	E	F	F	G
	3.4	F	F	G	H	H	E	E	F	F	G
	4.0	F	F	G	H	H	E	E	F	F	G
	5.0	G	H	H	-	-	E	F	H	-	-
4.8	2.0	F	F	G	H	H	E	E	F	F	G
	3.0	F	F	G	H	H	E	E	F	F	G
	3.2	F	F	G	H	H	E	E	F	F	G
	4.0	F	F	G	H	H	E	E	F	F	G
	5.0	G	H	H	-	-	E	F	H	-	-
5.1	2.0	F	F	G	H	H	E	E	F	F	G
	3.0	F	F	G	H	H	E	E	F	F	G
	3.5	F	F	G	H	H	E	E	F	F	G
	4.0	G	H	H	-	-	E	F	H	-	-
	5.0	G	H	H	-	-	E	F	H	-	-
5.4	2.0	F	F	G	H	H	E	E	F	F	G
	2.8	F	F	G	H	H	E	E	F	F	G
	3.0	F	F	G	H	H	E	E	F	F	G
	4.0	G	H	H	-	-	E	F	H	-	-
	5.0	G	H	H	-	-	E	F	H	-	-

LINTEL FIXING OPTIONS



- GENERAL NOTES**
- FOR GENERAL STRUCTURAL NOTES REFER TO SHEETS S001 AND S002.
 - ALL WORK TO BE COMPLETED BY SUITABLY QUALIFIED TRADES PEOPLE (ie LICENCED BUILDING PRACTITIONERS WHERE REQUIRED) AND IN ACCORDANCE WITH THE NZ BUILDING CODE AND TYPICAL CODES OF BEST PRACTICE.
 - THESE PLANS ARE TO BE READ IN CONJUNCTION WITH THE ARCHITECTURAL PLANS, ALL RELATED ARCHITECTURAL OR STRUCTURAL SPECIFICATIONS AND ANY MANUFACTURER'S TECHNICAL INFORMATION.
 - REFER TO ARCHITECTURAL PLANS FOR ALL REBATES. READ IN CONJUNCTION WITH STRUCTURAL PLANS. CONTACT LDE IF DISCREPANCY.

NZS 3604 CLASSIFICATIONS

EARTHQUAKE ZONE	= ZONE 3
EXPOSURE ZONE	= ZONE C
WIND REGION	= A
WIND ZONE	= VERY HIGH
SNOW ZONE	= N/A
TECHNICAL LAND CATEGORY	= TC1

REFER TO DESIGN FEATURES REPORT FOR INSPECTION SCHEDULE



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CLIENT DANIEL ROBINSON			DESIGN: RM	PROJECT DESCRIPTION	DRAWING TITLE	STATUS:
			DRAWN: JH	RESIDENTIAL STRUCTURAL DESIGN	LUMBERLOK DETAILS	
			DATE: 20/12/2023	31 RICHARDSON AVENUE, WHATUAPOKO, GISBORNE	TEAM/DISCIPLINE: STRUCTURAL	PROJECT No: 12069 PHASE: FOR CONSENT
			CHECKED: RM		SERVICE:	DRAWING No: 12069 - S401 REV: A
			SCALE A3:			